ROCKS AND MINERALS

BY THE UNIVERSITY OF MICHIGAN
MAR 10 1954
SCIENCE LIBRARY

MINERALOGY

GEOLOGY

LAPIDARY

Specimen of Thunder Egg from Oregon named "Martha Washington" by the owner, Ken Dor Rock Room, 411 Sutter Ave., Modesto, Calif.

60¢

JANUARY-FEBRUARY, 1954

(WHOLE NUMBER 238)

56th LIST OF FINE MINERALS

ANGLESITE, Sardinia. Small greenish xls. in rock. 2x1½	$ 2.50
ZARATITE, Texas, Penna. Xlline. crust on Chromite. 3x1¾	2.00
MARCASITE, Rosiclare. Ill. Three inch stalactite, iridescent.	2.00
TOURMALINE, Strickland Quarry, Conn. Black terminated xl. 2¾xl.	2.50
TOPAZ, Siberia. Grp. of blue & colorless xls. 2½x2x1¾. Not cuttable.	25.00
BARITE, Sterling, Colorado. Grp. of deep blue xls. 3x2½	2.50
CHALCOPYRITE, Japan. Grp of xls., in part iridescent. 3x2	3.50
CERARGYRITE, Broken Hill, N. S. W. Xld. on matrix. 2½x 1½	4.00
HESSITE, Botes, Romania. Xld. w. Sphalerite & Quartz. 2x1½	8.50
PHARMACOSIDERITE, Cornwall. Xld. on rock. 1½x1½	1.50
SPINEL, Amity. N.Y. Well xld. in matrix. 2½x2	3.00
SPINEL, Warwick, N.Y. 1" loose black xl.	1.25
TYUYAMUNITE, Grants, N.M. Bright yellow minutely mammillary crust on rock. 3x2x2	5.00
GOETHITE, Cornwall. Good brilliant xls. in xlline. mass. 3x2x2	3.50
CHRYSOBERYL, Brazil. Large (2") twin xl. w. smaller xls. 2x2x1½	35.00
COPPER pseudo. after xld. AZURITE ball, Grant Co., N.M. ¾x1½	1.50
SCHEELITE, Saxony. Xld. on Quartz. 2x1½	2.00
LINARITE, Cumberland. Xld. in matrix. 2x1½	2.50
APATITE, Eganville, Ont. Well-terminated, bright, greenish xl. 4x2½	5.00
STIBNITE, Felsobanya. Stout xls. on rock. 2½x2	3.00
PARGASITE. Pargas, Finland. Xld. & xlline. 3x1½	2.50
COPPER, Bisbee. Xld. in wires on xld. Calcite. 3x3	3.00
CRYOLITE, Greenland. Xlline. mass enclos. Galena, Siderite, etc. 2½x2	2.00
GOLD v. ELECTRUM, Romania. Xld. on rock 2x2	10.00
CORNWALLITE, Cornwall. Micro. mammillary on Quartz xls. 2½x1	5.00
MANGANOTANTALITE, Pilbarra, W. Australia. Xlline. mass. 2x1	3.00
CASSITERITE pseudo. after ORTHOCLASE, Cornwall. 1¾x¾. Very sharp.	2.50
CHRYSOBERYL, Haddam, Conn. Xlline. mass with Garnet. 2x1¾	1.50
DIOPTASE, Altai Mts., Russia. Well xld. on rock. 3x2½	20.00
TORBERNITE, Cornwall. ¾" xl. plates on rock. 1½x1	2.00
BISMUTH, Saxony. Solid xlline. mass. 1½x1½	3.00
MINIUM, Eifel. Germany. Incrustation on rock. 1½x⅝"	1.50
SPESSARTITE, Brazil. Translucent xl. mass showing parallel growth. 2x2	5.00
COOKEITE, Brazil. Minutely mammillary, pinkish, on Quartz. 4x2x1½	2.50
APOPHYLLITE, Poona, India. Larke loose greenish xl. 2½x2x1¼	3.50
JADEITE, Burma. Opaque white mass. 4½x3x2. (2 lbs.)	12.00
GOLD, California. Waterworn nugget, approximately 1x½". 19 grams.	27.00
FLUORITE, Cumberland. 1¼ inch twin xl. showing color zoning.	2.00
CHALCEDONY, Cornwall. Translucent, yellow, stalactitic mass. 5x3½x3	3.50
ANTIMONY, Prince Edward Is., Alaska. Polished slab. 2½x1½x⅜	3.50
TETRAHEDRITE. Bingham. Small bright xls. on xld. Quartz. 3x2½	2.50
CUPRITE, Chessy. ¾ inch skeletal octah. xl. altered on surface.	2.00
EUXENITE, Madagascar. Grp. xls. in parallel position. 1½x¾	2.00
CHALCOPYRITE, Westmorland. Xld. with rosettes of drusy Quartz. 3½x3	2.50
STANNITE, Cornwall. Solid mass, w. some Chalcopyrite. 2½x2	3.00
CACOXENITE, Hellertown, Pa. Xld. tufts on limonitic rock. 2½x2x2	3.00
EUDIALYTE, Greenland. Red xlline. mass w. xld. ACMITE. 3x1½x1½	2.50
SMOKY QUARTY, Chester Co., Pa. 4" xl. capped w. clear Quartz. 5x3	2.50
GROSSULARITE, Mexico. White xls. on xl. of IDOCRASE. 1½x1¼	2.50
TARBUTTITE, Rhodesia. Xld. nodular mass. 1¼x¾	2.00

HUGH A. FORD

OFFICE AND SHOWROOM: 110 WALL STREET **NEW YORK 5, N. Y.**

Telephone: BOwling Green 9-7191

No lists furnished, but inquiries for specific minerals welcomed.

Science direct

ROCKS and MINERALS

PETER ZODAC, Editor and Publisher

America's Oldest and Most Versatile Magazine for the Mineralogist, Geologist, Lapidary.

Published Bi-Monthly

UNIVERSITY OF MICHIGAN
MAR 10 1954
SCIENCE LIBRARY

OFFICIAL JOURNAL
ROCKS & MINERALS ASSOCIATION

WHOLE NO. 238 VOL. 29, NO. 1 - 2 JANUARY-FEBRUARY, 1954

Contents

UNUSUAL CALCITE AND PYRITE CRYSTALS FROM SHELBURNE, MASSACHUSETTS—*B. M. Shaub and William E. Bernier* 3

COLLECTING IN THE BIG DITCH— *Commander John Sinkankas* 13

DEPARTMENTS

WORLD NEWS ON MINERAL OCCURRENCES 19

THE SAND COLLECTOR—*Peter Zodac* 33

THE MICRO-MOUNTER—*Leo N. Yedlin* 38

MINERAL SHOPPER'S GUIDE—*Charles A. Thomas* 41

THE AMATEUR LAPIDARY—*Commander John Sinkankas* 45

FOSSIL DEPARTMENT—*A. Allen Graffham* 48

CLUB AND SOCIETY NOTES 50

MISCELLANEOUS

CHIPS FROM THE QUARRY 2

OLD QUARRY GOES MODERN— *Philip Cosminsky* 16

EASTERN FEDERATION PERSONALITIES 17

NOVICE COLUMN 44

OBITUARY NOTICES 46

PUBLICATIONS RECENTLY RECEIVED 62

MADE TO ORDER DIAMONDS 63

INDEX TO ADVERTISERS 112

Entered as second-class matter September 13, 1926, at the Post Office at Peekskill, N. Y. under the Act of March 3, 1879.
Title registered in U. S. Patent Office. Copyright 1954 by Peter Zodac

Specially written articles (as contributions) are desired.
Subscription price $3.00 a year; Current numbers, 60c a copy. No responsibility is assumed for subscriptions paid to agents and it is best to remit direct to the Publisher.
Issued bi-monthly on the 10th of the even months.
Authors alone are responsible for statements made and opinions expressed in their respective articles.

ROCKS and MINERALS, BOX 29, PEEKSKILL, N. Y., U.S.A.
(Office — 157 WELLS STREET — Tele. Peekskill 7-3185)

CHIPS FROM THE QUARRY

1954 RESOLUTIONS OF AN R & M SUBSCRIBER!

I, a loyal subscriber of R & M, hereby resolve to amend my ways and from henceforth on.....

1—If I change my address, I will tell the Editor in due time, sending in my new address and telling him what the old was.

2—If I renew my subscription and do not use a renewal blank, I will tell the Editor that I am renewing. He will thus place me immediately and not record me as a new subscriber which would ball up his records.

3—I will try to remember that each issue of R & M comes out around the 10th of the even months (Feb., April, June, August, Oct., Dec.) and that it may take a few days for the magazine to reach me.

4—If I should make some interesting finds and obtain a number of duplicates, I will send him a few specimens so he may see and examine them (and perhaps check me on my identifications). Each specimen will carry a label giving its name and locality where found. I will send him also all information possible on the finds—such as the name of the town, county and state in which each find was made. The Editor will be delighted to get all this information and if the specimens are of enough interest he will describe them in "World News on Mineral Occurrences." Thus my finds will be recorded in America's oldest mineral collector's magazine for the whole world to read. It will be my contribution to mineralogy.

5—If I find an interesting fossil occurrence, I will write the Editor of the Fossil Department, giving him all information possible. I will send him also a specimen or two as he would appreciate them.

6—If I am an amateur cutter, I will cooperate with the Lapidary Editor by sending him from time to time such notes as would be of interest and value to his readers.

7—If I ever run across a sand deposit that looks interesting and whose locality, so far as I know, was never recorded in R & M, I will collect a handful for the Editor, and of course I will tell him where I got it—perhaps from the edge of a brook, creek, river or lake. I will try to learn the name of the stream; at least I can tell him in what town or city, county and state it was found. Sometimes the stream may have an interesting history or it may be noted for some feature. I will try to dig up some information to go with the sand. On my many ramblings over the countryside, over the hills and mountains, I often see sand that looks odd or queer. Next time I will collect a handful for the Editor—who knows, it might be something new!

8—I will try to get a friend to subscribe for R & M, so that he, too, would be receiving our interesting magazine. But better still, if I got a friend interested, he would join me on trips to mineral localities which should make me very happy to have a good friend share in my hobby.

ATTENTION SUBSCRIBERS!

ROCKS AND MINERALS comes out once every two months as follows:

Jan. - Feb. out about	Feb. 10
March - April, out about	April 10
May - June, out about	June 10
July - August, out about	Aug. 10
Sept. - Oct., out about	Oct. 10
Nov. - Dec., out about	Dec. 10

UNUSUAL CALCITE AND PYRITE CRYSTALS FROM SHELBURNE, MASSACHUSETTS

B. M. SHAUB, Smith College, Northampton, Mass.

WILLIAM E. BERNIER, University of Massachusetts, Amherst, Mass.

During the period from the latter part of 1950 to the early part of 1952 a highway cut-off was constructed along the Mohawk Trail, Massachusetts Route No. 2 at Shelburne in order to straighten the road. About a quarter of a mile west of the village a rather deep rock cut, Fig. 1, was made through the strongly metamorphosed Conway schist for about three-eighths of a mile. It appears that during the period of construction and the summer of 1952 the mineral-bearing possibilities of the excavation were completely overlooked by the collectors in and out of the area. The Conway Schist here, as throughout its areal extent, contains beds of various compositions varying from those which are very siliceous to some which are very rich in fine-grained calcite as well as many beds of schist of varying compositions. It is not uncommon to find in metamorphic rocks of such diversified composition, many interesting and sometimes unusual minerals originating from solutions which were expelled during the metamorphic processes and which have been squeezed into fissures or cavities formed by the dynamic processes in folding and faulting the beds.

It was not until October 19, 1952, when the authors accompanied a group of teachers and students of the New England Intercollegiate Geological Conference that the fine calcite crystals were discovered. The last stop made by the group, under the leadership of Professor Freeman Foote of Williams College, Fig. 2, was at this highway cut to observe the variations in the Conway Schist when the junior author observed a few crystals in what appeared to be a small and partly filled fissure on the south side of the cut and slightly west of the middle section. The unusual shape of the crystals (with few exceptions they consisted of prisms and bases only), their large size, Fig. 3, (the largest crystals were 2½ inches between opposite prism faces and nearly 3 inches long), and clear

FIG. 1—"Big Cut" looking east, on Mohawk Trail Massachusetts Route No. 2, one-quarter of a mile west of Shelburne. Calcite-pyrite vein is located on the south side near middle of cut.

cut crystal forms shrouded the mineral in mystery for a short time to the young mineralogists. Their eagerness to secure specimens with inadequate tools and without giving due consideration to the friable nature of the mineral would have been disastrous, it was feared, to most of the specimens had the work continued unabated for even a short time.

The importance of the discovery was quickly recognized by the senior author who provided adequate tools from his car and who exercised considerable care in excavating the rock walls of the vein material so as to avoid as much injury as possible to the delicate crystals. In the removal of the crystal specimens we were fortunate that a considerable part of the cavity walls were covered with a slickensided gouge or were broken into relatively thin more-or-less flat, irregular pieces, Fig. 4, by roughly parallel frac-

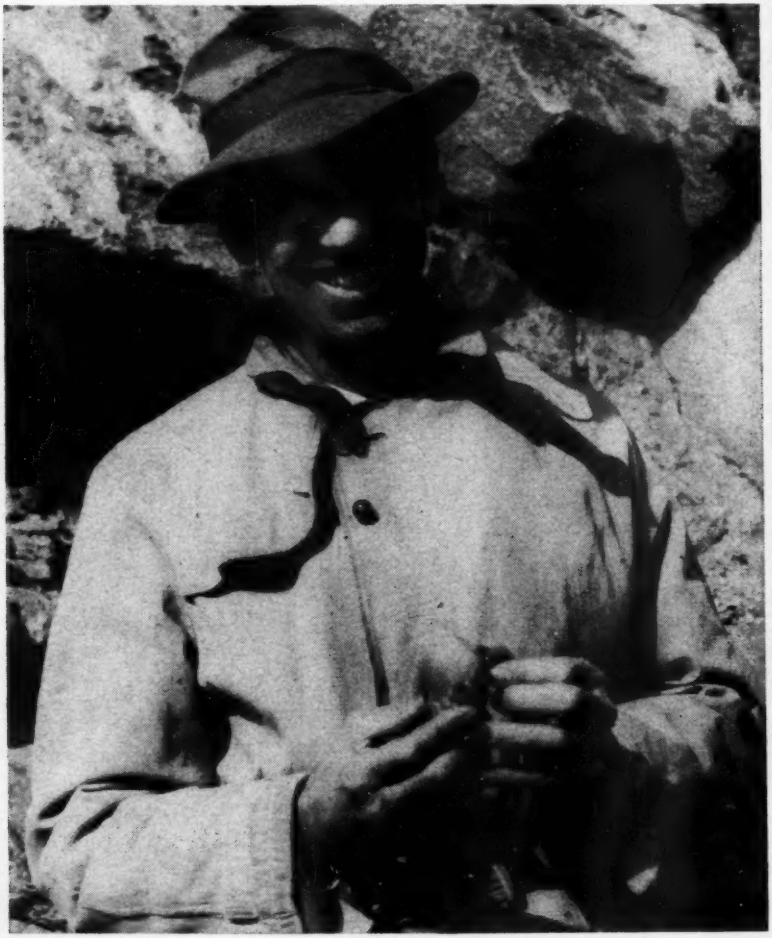


FIG. 2—Professor Freeman Foote, Department of Geology, Williams College, leader of the field trip, shows his admiration for the fine large calcite crystal excavated from the mud at the bottom of the calcite vein.

turing which permitted the removal of a considerable number of good hand and museum specimens.

The nearly vertical fissure usually cuts across the bedding at a relatively low angle. Movement along the fissure had created a very irregular opening, Fig. 5, where the vein material occurred. The cavity was about 5 feet in vertical dimension and about 10 inches at the widest place. The opening along the strike of the fissure near roadbed level was approximately three feet. It is not known how far the fissure extended out into the rock excavated from the cut. Its extension into the south wall can still be seen and it probably continues for some distance and may again expand into another opening in which a similar deposition of calcite had occurred contemporaneously with that in the cavity we exploited. The principal part of the fissure was at the level of the highway where it had been filled with debris from the blasting which had concealed the opening. The removal of the broken rock and some of the west wall revealed the crystal lined sides of the cavity at its greatest width. From the debris in the mud in the bottom of the cavity, and mixed with it, about a dozen good to superb crystals or crystal-covered fragments of the wall, Fig. 6, were obtained. These had been loosened from the walls and blown back into the cavity by the force of the blasts when the highway construction was in progress.

During the operations of removing the crystals and/or crystal covered sections of the walls there were always many eager hands waiting to share in the booty. It is quite probable that never in the history of New England mineralogy has the discovery and recovery of such an unusual deposit of minerals been witnessed by as many professional and amateur mineralogists and the products of the dis-

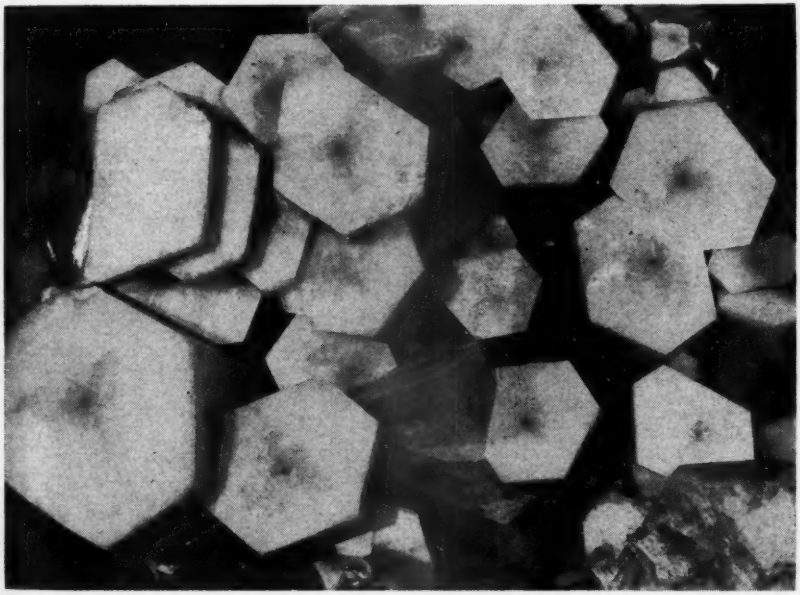


FIG. 3—A group of the calcite crystals showing the sharp crystal outlines and the white bases with dark spots representing buried pyrite groups. About natural size.

FIG. 4—East wall of calcite-lined cavity showing the relationship of the crust to the fractured wall rock. Exposed height about 20 inches.

covery so widely distributed among institutions and individuals interested in minerals; and, the senior author might add, with such a negligible return to the discoverer, as in this instance.

Most of the calcite was removed by the end of the first day; however, some good crystal groups were still visible where the vein was pinching out and the walls were so close together, Fig. 5, that

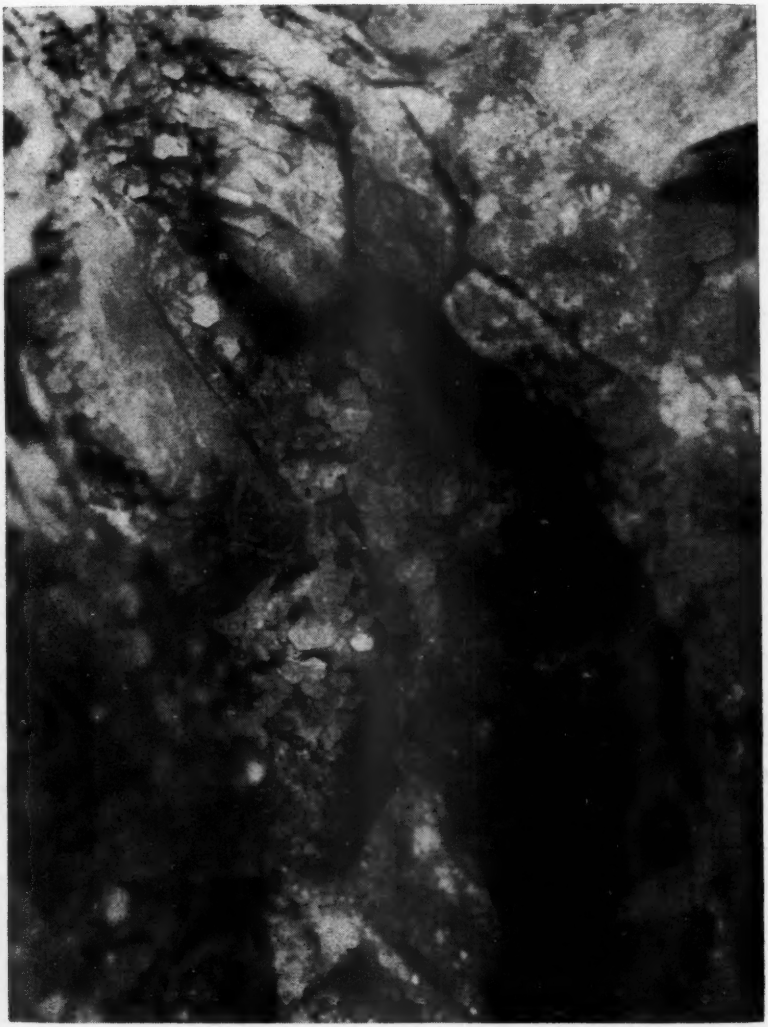


FIG. 5—The fissure as it pinched out into the south wall of the cut. Note parallel vein at upper left. The large crystals near the top broke along cleavage planes as they were attached very firmly to the wall rock. Exposed height about two feet.

it was becoming quite difficult to progress further. During the next few weeks the side walls consisting of the quite solid rock were gradually chiseled away by the more ardent collectors who visited the location and who reported that additional crystals and crystal groups were removed. At the present time the fault fissure still is evident and a thin vein of calcite marks the present visible end of a most unusual mineral deposit which may be said to have had a meteoric existance when once discovered that is, appearing and disappearing in a flash-of geologic time at least.

One may wonder and ask the question, "just how unusual is the calcite from the Shelburne 'Big cut'?" At one locality, Andreasberg, Harz Mountains region, Germany, calcite occurs where the prism and basal pinacoid habit is common, Fig. 7. The crystals from this locality contain several white, translucent zones parallel to the base and the base consists of the same material. In addition to the well-known German locality, Goldschmidt in his voluminous atlas of crystal forms lists the following localities: Marienberg, Harz, Germany; Cumberland, England; Strontian, Scotland; and Orkusak, Greenland. Dr. William F. Foshag, Head Curator, Department of Geology, Smithsonian Institution, informed the senior author that there was, in the collection of the institution, calcite having this habit from two localities, Franklin, New Jersey and Andreasberg, Germany. In a letter from Dr. V. B. Meen, Director of the Royal Ontario Museum at Toronto, reference was made to calcite of the same habit from Liskard, Cornwall, England and Port Arthur, Ontario. The senior author has a micro-mount of calcite of the same habit from the Westfield, Massachusetts trap rock quarries, except that three of the base edges are slightly truncated by a rhombohedron which is also a form present on some of the crystal groups from Andreasberg, Cornwall and Shelburne. Crystals from all of the localities

FIG. 6—A crystal group recovered from the mud in the bottom of the crystal cavity. Large horizontal crystal is 2¾ inches long. Note black spots in bases which represent covered pyrite groups. Specimen of Mr. Russell Dutcher.

seen by us have the white translucent bases; hence the cause of this feature of the crystals is likely to have had an influence on the crystal habit of the calcite.

The mineral calcite is noted for the complexity of its crystal forms as well as the unusual widespread occurrence of good to excellent crystals from microscopic proportions up to over 1200 pounds for a twinned crystal from Sterlingbush, Lewis County, New York. About 700 crystal forms have been described for calcite. The simplest of all the crystal habits of the mineral is probably that of the rhombohedron which often occurs alone and is not uncommon in many localities where the crystals consist of this single closed form. The Shelburne calcite, except for the small crystals in the parallel veins, consists of two simple open forms, the prism and basal pinacoid with occasional slight development of the rhombohedron and scalenohedron.

It is interesting to note that the eager hands already referred to at the calcite deposit were waiting patiently for the larger crystals while the small ones in the narrow parallel veins were little short of being frowned upon. It was difficult to protect them from being trampled under the many feet milling about the "portal" of the cavity. Yet the story of the development of the large crystals starts with that of the minute ones which first lined the cavity walls and upon which the larger crystals expanded as they developed and covered the many small ones so that their development could not continue. Many of the narrow parallel fissures contained the early crystals which no doubt covered all of the wall space at first in both the large and small cavities. In the latter the growth of the crystal crusts finally sealed them off from the supply of calcium and carbonate ions and hence did not continue to grow but they remained as most

FIG. 7—Calcite from Andreasberg, Germany showing only the prominent prism and base. A few very small rhombohedron faces are present. The crystals contain a number of white zones of which the base is one. X = 1.3.

interesting samples of the early small calcite crystals. Succeeding stages of development are marked by the increasing size of the crystals and their changing habits before they too were more-or-less isolated in their respective cavities from the succeeding and probably somewhat changing solutions carrying chiefly a supply of calcium carbonate.

An examination of the larger calcite crystals reveals some interesting features. If one holds some of the larger crystals so as to obtain a reflection from the prism face he will notice very low elevated pointed figures, Fig. 8, which appear to be overgrowth figures, on their surfaces. The low sloping sides forming the figures represent vicinal faces of the negative scalenohedron. A Cornwall specimen shows the same overgrowth figures to be very well developed while the surface figures of the Andreasberg specimens appear to be less pointed and not as sharply developed. They frequently show a very irregular complex arrangement of the surface markings.

The white bases of the calcite presented some problems as to their probable origin. The basal pinacoid is one of the less common forms on calcite, and when it occurs it is often marked by a milky white color indicating that there are many inclusions within the material or discontinuities of the crystal lattice, both of which scatter the light and produce a white band or patches depending on their distribution. By holding a base so as to get a beam of light reflected from the surface one can at once see it to be made of granular bladed aggregates oriented in general perpendicular to the base edges. The blades give strong light reflections

FIG. 8—Overgrowth figures, vicinal negative scalenohedron faces on the front prism, a 1010 face of the calcite. X = 10.6.

under a binocular microscope. Due to the aggregation of the loosely bonded, irregular grains in the base, the hardness here is much less than on the prism faces or on a section across a single uniform crystal cut perpendicular to the vertical axis. The white base can easily be scratched with the finger nail. A thin section was made from material at the very surface of the base. It showed a fine-grained bladed aggregate having a very high birefringence. Aragonite would have the same appearance under the polarizing microscope; hence an x-ray powder picture was made of a sample of the bladed material. A small amount of fine powder was scratched from the base for this purpose.

A comparison of the base material with a cleavage piece of transparent calcite from New Mexico and aragonite from the Big Cut,Shelburne, Massachusetts is shown in Fig. 9. From these illustrations it is seen at once that the white base is also calcite. The whiteness is undoubtedly due to the scattering of light by the granular nature of the material. The bladed, granular aggregate is parallel to the base which accounts for the so-called basal parting in the white zones. If the edges of the white base are examined, one will find it to be made up of both white and clear laminations which show that there is a sharp variation in the material in the base. One will also note that the white laminated portion is actually sitting upon a former rather flat rhombohedron. The same phenomenon is present in specimens from the Andreasberg locality. Rarely is one able to separate a "cap" entirely or in part from the rhombohedron face. Crystals that are similarly terminated by rhombohedrons are common in a few of the adjacent small veins which nearly parallel the main one containing the large crystals. It appears, therefore, that the development of the basal pinacoids on the Shelburne calcite is due to an irregular deposition of colloidal calcium carbonate on the earlier rhombohedron terminal faces while on the prism faces the deposition built up the normal crystal structure. The colloidal material later crystallized into the bladed variety now in part forming the basal ends. While the colloidal material was being deposited on the ends, the prism faces grew outward a small fraction of an inch. This is evident by the presence of a thin film of pyrite on the earlier prism faces as

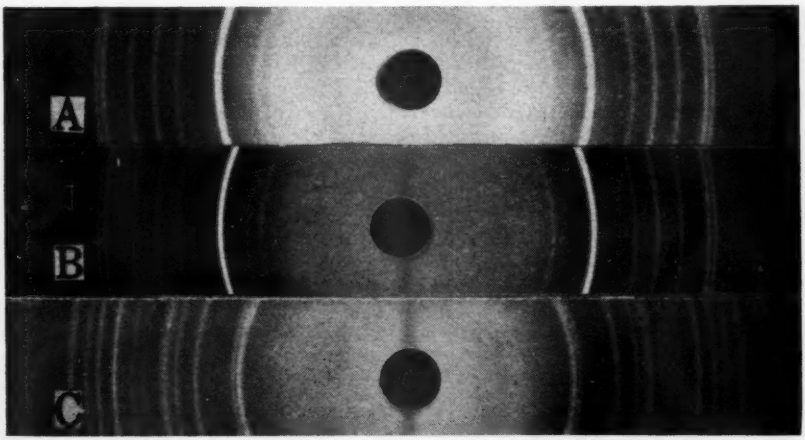


FIG 9—X-ray diffraction pictures showing A, white base material, Shelburne calcite; B, transparent cleavage of calcite, New Mexico; and C, aragonite from the Big Cut, Shelburne, Massachusetts. These show the white bases of the calcite crystals to be made up of calcite also.

well as scattered flat crystals of pyrite. At this period a cluster of intergrown pyrite crystals developed at the apex of the rhombohedron terminations and was at times completely covered. The presence of the covered pyrite in many of the crystals is clearly indicated by a dark spot within the translucent base, Figs. 3 and 6. An occasional group of pyrite crystals grew too large to be covered and about these a number of radial fractures now occur which indicates the presence of contraction forces during the recyrstallization of the colloidal deposit on the base. The thin layer of calcite over the earlier arrested phase of the crystal growth contains numerous cleavage fractures which penetrate only as far as the early crystal surfaces which indicates a discontinuity of the crystal lattice at the earlier crystal boundary prior to the colloidal deposits on the terminals.

The only additional minerals in the calcite crusts are pyrite and quartz which is abundant on a few specimens from the narrow fissures. Terminated quartz crystals occur only in the thin crusts near the walls, where they were usually covered by calcite. Of these the pyrite is especially interesting but the entire description of the interesting variations and habits of this mineral cannot be given here. A few of the more striking phases can, however, be enumerated. The most striking of these consist of a single crystal of pyrite occupying the near central position on the base of the calcite. At times the central position of the base was occupied by a spherical group of pyrite crystals having a cubic habit and with cube faces appearing almost like facets on a sphere with a very irregular groove between the adjacent faces. At other times the habit of the pyrite was octahedral in which case the pyrite appeared like a spherical mass with numerous stubby spines projecting from the surface. A distorted octahedral habit is also common in which the crystals were nearly thin, flat isosceles triangles with the points truncated by small cubes. Thin triangular plates frequently built up a petal-like arrangement in nearly parallel overlapping growths thereby producing a beautiful micro-pyrite rose.

There are many other details of the above minerals that are worthy of description but space does not permit further elucidation at this time.

There are about 15 additional mineral species occurring in other fissure veins in the Conway Schist from the Big Cut. While none of these are as spectacular as the calcite and pyrite, they too are of interest to many mineral collectors and the senior author hopes to describe them in the not too distant future.

EASTERN FEDERATION CONVENTION SCHEDULED FOR OCTOBER, 1954

The following telegram, dated Dec. 10, 1953, was received from the executive vice president, Henry B. Graves, 3154 N. W. 27th St., Miami 42, Fla.

"1954 convention and exhibition of the Eastern Federation of Mineralogical and Lapidary Societies will be held Oct. 14, 15, and 16, 1954, in Miami Municipal Auditorium and Biscayne Terrace Hotel, Miami, Fla. Advertising schedule being developed and pending completion your editorial handling will be appreciated."

Available as Lecturer

Andrew M. Dudley, Box 215, Barry, Ill., is available as a lecturer and his specialty are the twelve stones of the Bible. The stones will be exhibited under a Mineralight with a brief description of each stone; a description of the Holy City will also be included.

Mr. Dudley is a member of the Rocks and Minerals Association.

Picture on the Cover

The picture on the cover is a very fine moss agate from Priday Ranch, near Madras, Jefferson Co., Ore. It is a 4 x 7 inch nodule and because of its resemblance to a woman's head and bust, is called "Martha Washington" by its owner. The outline is chocolate-brown in color; face light blue and white; lower bust darker blue; flowers on hat white and pink.

From the Ken Dor Rock Roost Collection, 419 Sutter Ave., Modesto, Calif.

COLLECTING IN THE BIG DITCH

By COMMANDER JOHN SINKANKAS

EDITOR'S NOTE: This is the first of a series of articles by Commander Sinkankas about his collecting adventures while he is serving aboard a U. S. Carrier as Executive Officer. This ship, a light aircraft carrier, is enroute to the Far East where it will spend considerable time and in doing so, will visit many ports. We hope that you will find pleasure in reading these little episodes out of the life of a regular naval officer who follows the sea professionally but whose off-hours interest is the world of minerals.

Early fall, 1953. The dawn is bright and clear, ahead of the ship is the low mountain range whose lack of elevation gave birth to the idea of a trans-isthmian canal, and later, in spite of failures, made its construction possible. We were truly fortunate to get such a day as this, more often tropical downpours greet the visitor to the Canal Zone rather than sunshine —and rain can be an awful bother to a rockhound desirous of spending to its fullest the one day of liberty allotted in this exotic part of the world.

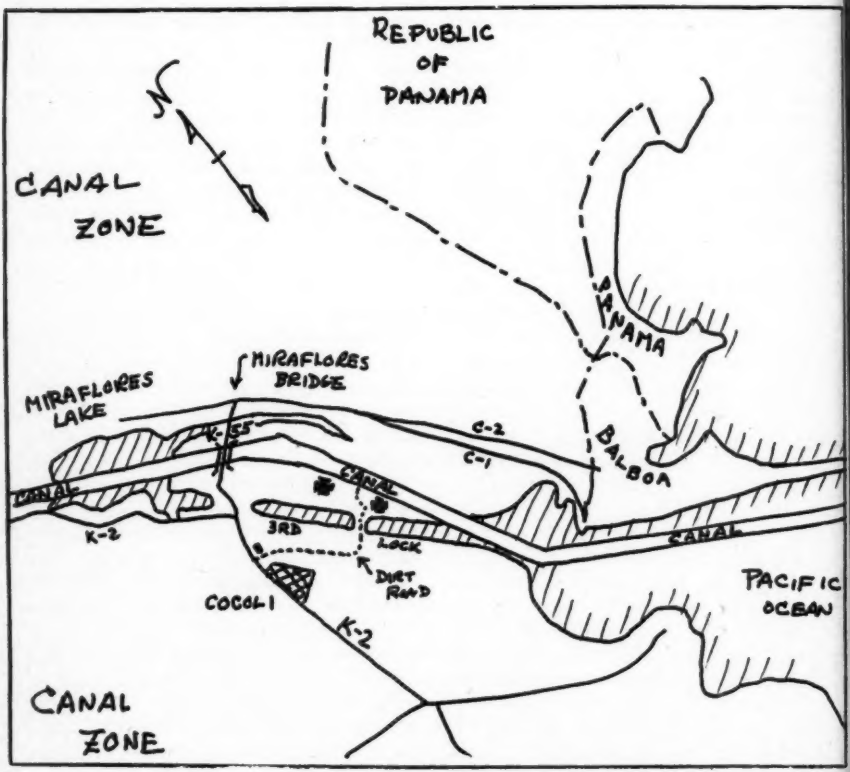
We started through GATUN Locks within minutes after taking aboard our canal pilots. Skilled in their profession, it was truly amazing to see how they and the dockmaster with his group of towing locomotives, work in the closest kind of cooperation in easing the giant hulk of our ship through the locks. There were only inches to spare from our sides to the unyielding concrete of the lock walls. Yet, balancing their pull, all locomotives eased us in and out without scraping.

After Gatun we traversed Gatun Lake and entered upon the section of the canal which is cut from the low hills and mountains of the Cordillera. At first nothing was seen on the banks except various sedimentary rocks mainly composed of compacted volcanic ash. Then as the cut walls steepened, we passed into the famous Culebra Cut, or Gaillard Cut as it in known now. Here could be seen the vast mass of Gold Hill on the left and its divorced section across the water pierced through by the canal. This rock is basaltic and indeed in one spot near the crest a fine group of geometric polygonal columns could be seen so typical of this type of volcanic extrustion. Near its base however, the confused mass of lava, volcanic ash, and other materials, is poorly cemented together and a huge dredge was busy scooping up material which had slid into the canal. This spot is a constant source of trouble attributable solely to the marked lack of adherence between layers of material. Disintegration in this climate is extremely rapid and as new material is exposed to the weather, it too crumbles and slides in time. It is this loose and crumbled material which is of great interest to the gem hunter, since much agate and jasper formed when these deposits were being created. With decay they have been set free and have been dredged out of the canal excavation and dumped in accessible heaps. Very few of the specimens are without some signs of rounding showing that they had eroded out countless years before the Isthmus was even discovered. It is to one of these dump heaps that I turned when the first opportunity came to collect.

The transit of the canal was an all-day proposition so I had to content myself with planning the trip for the next day. As soon as I was free, I gathered my gear together and drove from Balboa where we had tied up, along Highway C-2 to the turn-off on Miraflores Bridge. This movable span bridge crosses the last set of locks before reaching the Pacific Ocean from an Atlantic entrance. A fine view of the locks is obtainable from the bridge and when the carrier went through, quite a gallery of spectators had assembled to see one of their warships. Crossing the bridge on Highway K-55, an excellent view is obtained of the enormous excavation which was once meant to be the third set of locks to parallel the present double set. Large amounts of trap are seen but are completely without mineralogical interest. Shortly beyond the excavation, K-55 joins K-2 which swings to the left toward the town of Cocoli.

About a half a mile short of Cocoli is a dirt road which turns off to the left at the corner of a huge warehouse. This road winds its way through large dump heaps of trap rock, crosses the third locks excavation, and then plunges straight for the banks of the canal. In effect we have described a large semi-circle to the left from leaving the Miraflores Bridge. The last stretch of this road is strictly jeep-type and not to be attempted in anything less rugged. The road which in its lower levels, forges through high saw grass, finally swings parallel to the canal to the right and toward the Pacific entrance. The car is parked here and only about 200 feet remain to be walked to bring you to the bank of the canal.

This Canal Zone saw grass is pretty rough on exposed skin, each leaf is sharp edged and actually capable of making a tiny cut if drawn across the surface in just the right fashion. Plowing through the stalks which are seven feet high in most places, one must be careful not to be too impetuous in his progress lest he fall off the steep bank which abuts the canal. All along this bank, both up-stream and down, the fill-material has been washed away by tidal and wave action, quickly dissolving the easily eroded rocks



Sketch map (not to scale) of area in the Canal Zone where the author did his collecting.

and leaving among the more durable kinds, the quartz gems which are the object of search. This same tide incidentally, which is so effective in bringing out the specimens for our view, is also famed for its height,—depending on season it can go as high as 14 feet above low water. When I was there, it had a range of 11½ feet and while incoming, almost trapped my friend and I by coming in so quickly. If possible, the collector to this site and others in tidal water nearby, should inquire as to the state of the tide and plan to arrive while it is nearing its ebb in order to have several hours of good collecting. I arrived shortly before noon and had to soon stop collecting due to high water, however a wait of several hours brought the tide to ebb again and I had a wonderful time sweeping up and down the beach, a new vista being exposed almost as soon as my steps were retraced.

Perhaps the most impressive thing about these canal dump sites is the sheer *quantity* of acceptable to good material available, also the knowledge that there is a lot more which will come out in the course of time. I saw several boulders of brown jasper which weighed at least 50 lbs. When struck with the hammer they rang like a bell, attesting to their solidity. Good material like anywhere else however, does not jump out of the ground and into your bag, it has been hunted for by our colleagues in the Canal Zone and must be hunted for by the visitor. Nevertheless, I was able to gather up about fifty pounds of jasper and agate before reluctantly leaving.

Of the types of material seen, jasper predominates. Generally it occurs in various shades of yellow and red and green material, and rarely even a very good grade of bloodstone, has been found. I picked up only a thumb-sized piece of deep green which was strongly reminiscent of the India material. Much of the jasper is in large sizes but care must be exercised in sampling to be sure that only good solid material is kept. A lot is porous and a lot more a sort of breccia in which pieces of tuff or pumice-like rock are enclosed. Each piece should be chipped on the corners if there is any doubt. In general, the prominent conchoidal fracture of well-silicified jasper is the "keep" sign. If any deterioration of the outside is noted, it usually indicates material which is earthy and will not polish. Dark brownish-purple jasper from this locality is particularly apt to be so. At one point I picked up several very bright red jaspers which I hastened to add to my collection. Another red specimen of more muted tone was kept because is showed faint orbicular markings. That one I am not sure about but we shall see when we cut it.

There are two distinct kinds of agate present, the most common being a grayish translucent material with very faint banding and partially carnelianized on the outside. Rarely a piece falls to hand which is sufficiently stained to be useful all the way through. This carnelian is plentiful and several pieces were found which were as large as a salad plate. They are mainly disc-like in shape and make better specimens of the phenomenon of carnelianization than of cutting material. It is likely that some can be heat treated to a different color. The other type of agate noted was gray to black, almost pitch-black and lacking the faint brownish tinge of dyed material. I have seen this material before and have cut some. It is most attractive. I cannot explain the black staining but presume it is something in the ground which penetrates during the passage of time. In some pieces the stain, like the carnelian noted above, is superficial while in others it is completely through. Geode sections were noted in which the sparkling white quartz xls in the interior presented a brave contrast to the dead black of the rind. This black material is one of the very few natural occurrences of true black agate.

The round-up of minerals would not be complete without mentioning the fact that some petrified wood is also found. This material is extremely dull in appearance however, and aside from the curiosity which all petrifications evoke, is

scarcely worth picking up. Also to be found here are many small pieces of perfectly clear agate, small carnelian chips, and tiny flat geode sections. All are too small to be cut but are worthy of a passing appreciative glance.

The above is just one good place for collecting in the Canal Zone, the country of the Big Ditch, there are others and only the Lord knows how many places yet to be discovered. Most of the Isthmus is wild and forbidding country, traveled only by the Indians of the interior while civilization as we know it, is merely a bright thread across its narrow part and along its shores.

OLD QUARRY GOES MODERN

By PHILIP COSMINSKY
509 Timber Lane, Falls Church, Virginia

Old quarries that have been worked out or abandoned are usually left as an unsightly hole in the ground, of no interest to anyone except the occasional mineral collector on the hunt for a specimen or so.

Quite often these quarries are built over and lost forever to us, except as a paragraph or two in some book. Seldom, if ever, are they used to improve the appearance of the surrounding area. This has been done in a very lovely manner by Mr. Harry A. Shockey of Falls Church, Fairfax Count, Virgina.

"The granites in the vicinity of Falls Church are of two varieties. One is a medium to fine-grained crystalline rock and is a biotite granite carrying a variable quantity of muscovite. The other, a light and dark speckled rock, is a fraction more coarsely crystalline and is a hornblende-biotite granite. It is the only representative of a hornblende granite yet found in the State and it is closely associated with diorite masses on the one hand and with foliated mica-granites on the other.

"The Trip quarry, located about 1 mile south of Falls Church, was first opened about 1872, and has supplied considerable stone for local purposes, principally for foundations and buildings. The granite is massive, of medium texture and of variable light gray color, depending upon the amount of mica present. The Presbyterian and Catholic churches at Falls Church were built of granite in the rough from this quarry."[1]

1 Mineral Resources of Va, Watson, J. P. Bell & Co., Lynchburg, V 1907

No exceptional mineral specimens were ever found at this quarry, but the writer has obtained some very good radiated black tourmaline groups and some fair massive smoky quartz specimens. The outstanding feature of the quarry were huge fissure planes in the granite, some several yards each way, that were covered with very good manganese dendrites. Specimens of these were hard to work out, due to the granite's splitting every way but the right way.

This quarry has been of value to local teachers in that it showed the manner in which feldspar alters through weathering, from solid rock through all the steps to fine sand.

Mr. Shockey acquired this property some years back, but did not operate it as a quarry, except for small local orders. Now he has converted the site to one of the nicest motor courts to be found in the vicinity of Washington, D. C. Due to land values in this area, it is doubtful if a motor court of this size will ever be built any closer (10 miles) to Washington.

Mr. Shockey has made extensive use of the broken rock left on the dump in the construction of retaining walls, a border around the old quarry pond and in other ways. The quarry opening itself will eventually be a very large rock garden.

The court contains 55 rooms and is modern in all respects. It is located on Lee Highway, Va. 29-211. Visiting Rockhounds are assured of a welcome at all times.

EASTERN FEDERATION PERSONALITIES

HARRY L. WOODRUFF, Founder of the Federation and

HENRY GRAVES, Executive Vice President, in Charge of 1954 Convention

HENRY B. GRAVES HARRY L. WOODRUFF

In a flash photo taken at the Paterson convention, Ben Chromy, President of the Eastern Federation, caught Woodruff and Graves reflecting on the past and pondering the future of the Eastern Federation.

Harry L. Woodruff, gemologist of Washington, D. C., in addition to being the moving spirit behind the organizing of the Eastern Federation of Mineralogical and Lapidary Societies, also founded the Washington School of Gemology. He is eminently qualified as a teacher of gemology as he is unselfish in explaining the intricacies of the science in minute detail, and has himself a vast storehouse of knowledge based on years of practical experience and study. He is also the inventor of a special illuminator for a gem microscope that he designed.

Mr. Henry B. Graves, electro-mechanical engineer of Miami, Florida, is one of the organizers of the Miami Mineral and Gem Society and has served as an officer of the Society for a number of years. He too can be placed in the category of teacher as he has given unselfishly of his time and use of his home and shop once a week for several years for the purpose of instructing several hundred fellow Miamians in the cutting, polishing and faceting of gems.

Mr. Graves is President of the Miami Plastic and Engraving Corp., and is also the designer of special lapidary equipment that will soon be placed on the market nationally.

The Miami Society also has provided the Vice President for the Eastern Federation in the person of Dr. V. G. Sleight, Professor of Geology of the University of Miami. Dr. Sleight received his Ph.D degree from Northwestern University and his particular interests are pre-

Cambrian geology, structural geology and mineralogy.

Dr. Sleight and Mr. Graves make a fine team to guide the Federation through its 1954 show and convention, and they are not without experience judging from the recent Miami hobby show, 90% of which was the work of the Miami Society, which was blessed with an attendance that ran into the thousands.

R & M Teaches As Well As Directs

Editor R & M:

As an advertiser in your "paper" I enjoy unequaled benefits. These include low rates, attractive copy, and very excellent cooperation. Each one of these very important benefits is of great worth by itself, but together they make an unexcelled zenith of lucrative returns.

As a subscriber to your journal I enjoy fine reports by excellent writers who know what they are talking about. I receive burning desires in each printed line to get out after specimens mentioned by avid hobbyists. As learning can never be fully realized, this magazine teaches as well as directs.

A critic looking over your magazine would have to resign his job, for many of your mistakes are benefits added to the collector's collection.

A sensible journal by a sensible man can never be called not up to par, and thus it is with R & M.

I truly admire a man who can produce such material. And here may I wish you such a continuing life as would be due to such a man who has done so much for his field.

R. E. Riecker, Mgr.
The Midwest Shop
9709 S. Prospect
Chicago 43, Illinois

Day Spoiled If No R & M!

Editor R & M:

Everyday when I come into the shop, the first thing I do is run for the mail. No R & M and my day is spoiled!

Sol Shalevetz
220 W. 5th St.
Los Angeles 13, Calif.

Dec. 1, 1953

Keep Well and Live Many Years!

Editor R & M:

Enclosed please find a check for $6.00 for which please renew my subscription to ROCKS AND MINERALS for 2 years.

Your covers are quite an improvement- definitely—and the contents as interesting as usual.

May you live many years and keep well—that for our benefit too.

D. Ellis Lit
124 East 31st St.
Oct. 29, 1953 New York 16, N. Y.

Young Collector Wants to Exchange!

Editor R & M

I am a girl 11 years old and my Aunt Daisy Pat Stockwell told me to write and ask if you would publish a letter for me asking other young collectors to write me. Thank you. Here is my letter:—

Dear Junior Collectors:

I am interested in collecting rocks, minerals, and any geological specimens from other states. Please write to me if you would like specimens from my state of Missouri and tell me what you have to exchange.

Caroline Weisenborn
Box 453A, RR 2
Oct. 21, 1953 Imperial, Mo.

Last Court of Appeal!

Editor R & M:

For the past several years I have tried to contact someone who has prospected the Stark, N. H., Topaz and Amethyst area. Several times I almost connected but each time it was "the light that failed". Now I am appealing to you, the Rockhounds last court of appeal. In June 1945 issue of R & M there was an article by Harold Verrow on that locality. Can you send me Mr. Verrow's address that I may correspond with him on the locality? Are there any other subscribers to R & M from the Gorham and Berlin, N. H., area that I could contact?

I would like to ask some local Rockhound about the Lancaster, Mass., Chiastolite area.

How about a page each issue of R & M listing your subscribers and addresses. This would enable us all to contact local Rockhounds in regards to prospects.

John R. Dillingham
Nov. 9, 1953 Naples, Maine

LOOKING BACK - - - -

Twenty-Five Years Ago in ROCKS AND MINERALS

March 1929 Issue

A brief description of the tin mines of Northern Nigeria, West Africa, by Aubrey E. Horn, pp.1-7. An intensely interesting illustrated article on this West African tin area by a subscriber who is still with us.

Ilvaite at South Mountain, Idaho, by Dr. H. C. Dake, p.9. A short article by the former President of the R & M A.

A famous hill, by C. W. Hoadley, pp. 10-11. A short article on Mount Royal and some of its minerals; Mount Royal overlooks the city of Montreal, Canada.

Arsenic, its uses and misuses, by Edward Cahen, pp. 12-16. Mr. Cahen, an English author, gives us many interesting facts on arsenic in his 5-page, illustrated article.

World News on Mineral Occurrences

Items on new finds are desired. Please send them in.

Abbreviations: xl—crystal xled—crystallized xline—crystalline

ALABAMA—W. M. Johnson, RFD 6, Knoxville, Tenn., has sent in the following item on Alabama:

"Near Angel Station, southeast of Gadsden, the barite carries some galena. Nearby are the "Old Lead Mines" of Civil War times where galena has been mined. Early samples showed sphalerite and silver. About 18 miles northeast near Jamestown in Cherokee County is another lead mine."

ARIZONA—A letter dated Sept. 17, 1953, from John Whatley, Jr., 705 East E Ave., Glendale, Ariz., tells us: "I might pass along to you that I found some nice quartz geodes and calcite crystals in Flagstaff (Coconino Co.), Arizona."

Henry A. Kortum, Box 1107, Superior, Ariz., in his letter, dated Aug. 19, 1953, writes:—

"An old mine near here had cavities in it that contained a sandlike mineral that was very heavy and enormously rich in silver. Needless to say it was very carefully worked out and not a trace of the mineral remains to be found.

"It wasn't far from there that some early day prospectors found some ore which they took to be lead, and melted it down to make bullets to fight the Indians. The mineral turned out to be hornsilver."

Raymond Canover, Stone Ridge, N. Y., sends in a clipping from the Oct. 4, 1953 issue of the New York Times. Part of the clipping reads:—

FORT DEFIANCE, Ariz., Oct. 3 (UP)—A team of four men are digging on the Navajo Indian Reservation north of this community (in Apache County) with "high hopes" of finding the legendary diamond field that the Spanish explorer, Francisco Coronado, sought almost 400 years ago.

The men are working in a rare deposit of Kimberlite, according to J. W. Donowick, who heads the expedition as president of the Coronado Development Company, Inc. The clay-like substance has been found to contain diamonds in such differing localities as South Africa and Arkansas.

ARKANSAS—Galena has been mined near Blakely Creek, Garland Co., Ark.

CALIFORNIA—The following letter, dated Oct. 29, 1953, comes from Mrs. Vernon Malm, 617 - 31st St., Manhattan Beach, Calif. Part of it reads:—

"Just recently I have become interested in minerals and rocks and found it quite a fascinating subject.

'Am enclosing a sand dollar I found that has turned to stone. There are many more in the locality. I wonder if they would be of value to other collectors?"

A specimen of the sand dollar, a flat grayish-brown fossilized starfish 2 inches in diameter, was received from Mrs. Malm. It is a most interesting specimen and its locality is near Hanford, Kings Co., Calif. We are sure collectors would consider these sand dollars to be of value.

A reader, who wants to remain anonymous, sent in the following two items:

"A new mineral, Chromrutile, has been found at the Red Ledge chromite mine in the Washington mining district of Nevada Co., Calif. It consists of small, brilliant black crystals with Kammererite and Uvarovite crystals on the chrome ore. The exact date of the discovery is not clear, but presumably it was around 1949. Red Ledge mine was originally developed as a gold-bearing property, and the chromite occurs near

the eastern edge of a large serpentine mass."

"There should be a good hunting ground in the rock dumps of the Afterthought copper mine, which is right alongside Highway US 299E, about 25 miles northeast of Redding, Shasta Co., California. The ore and accompanying rocks contain sphalerite, pyrite, gold, silver, chalcopyrite, chalcocite, galena, bornite, tetrahedrite, calcite (rough crystals and massive), quartz (no crystals), barite, luzonite, azurite and malachite. Collectors should not trespass, but seek permission to collect at the dumps from the Coronado Copper & Zinc Co., owners and operators of the mine, Pacific Mutual Building, Los Angeles, Calif., or from the superintendent on the property."

COLORADO—Brownish - black xline masses of hubnerite in massive smoky quartz have been found in Silverton, San Juan Co., Colo.

CONNECTICUT—A letter, dated Oct. 22, 1953, comes from Walter Busch, 43-32 Elbertson St., Elmhurst 73, N.Y. It reads:—

"You will be interested to know that I have finally secured a lease to the Rock Landing No. 2 quarry in Haddam Neck, Middlesex Co., Connecticut. Also have heard from Mr. T. J. Smith and he is interested in starting a mining operation with me. We will be mining for columbite and beryl which research work has shown me to exist in this pegmatite in commercial quanities. The feldspar naturally will be a by-product and will help in defraying the cost of mining for the columbite and beryl. Some of the columbite xls in this pegmatite are 8 inches across. Interesting also is the fact that nice uraninite xls occur in this pegmatite as well as autunite and torbernite. The pegmatite will be mined very extensively and I will supervise the operation in seeing that all strategic minerals needed by the government will all be saved. Needless to say all valuable mineralogical specimens will be saved and will be available to collectors. We are planning for a continuous 2 or 3 years operation. I believe we will operate as the New England Mineral Company. You are free to print all of this under World News On Mineral Occurrences. If everything goes without a hitch we'll begin mining in about 2 months. This past Sunday took a ride up to the Branchville (Conn.) Mica mine. It seems to have a look of abandonment to it. The pit is slowly filling with water. Found a boulder of cleavelandite and with damourite with some nice lithiophilite in it."

DELAWARE—At the Eastern Federation Convention held in Paterson, N. J., last October, we had a nice chat with Leonard A. Morgan, 217 So. Atlantic Ave., Haddonfield, N. J. Among other things, Mr. Morgan told us that he had found brown belemnites (fossils) in soft marl that had been dug out of a dredged canal near Delaware City, New Castle Co., Del.

FLORIDA—Capt. F. J. Smith, P. O. Box 905, Mayport, Fla., has sent in 2 interesting clippings taken from last August's issues of a Jacksonville, Fla., newspaper. The clippings relate to minerals found in sands at Ponte Vedra, St. Johns Co., Fla. The minerals found in the sands numbered 14 but only 6 were dug for commercial uses—garnet, ilmenite, monazite, rutile, staurolite and zircon.

GEORGIA—Groups of deep purple amethyst xls have come from Benny Ray place, 2 miles east of Buckhead, Morgan Co., Ga.

IDAHO—The following notes, dated Sept. 26, 1953, were sent in by G. Elmo Shoup, Box 756, Salmon, Idaho:—

"Molybdenum Corporation of America (California Branch) is now doing some development and exploration work on properties on Squaw Creek, Mineral Hill District, Lemhi County, Idaho. It is reported they are after Columbite and Tantalite; this is in the same District the

deposits of Rare Earth Minerals are located.

"Mr. J. E. Hovren has done considerable development work on some new related property in Eureka District, Lemhi County, Idaho. Good Assays of Uranium, Vanadium and Rare Earth Minerals are being received. G. Elmo Shoup is the Mine Consultant.

"Iron Deposits of Lemhi County, Idaho, are now under investigation with assays running 61 to 70 percent. A number of Engineers from different Steel Companies are in the Leadore District, looking over the Iron properties."

ILLINOIS—Brownish siderite has been found on Sugar Creek, Schuyler Co., Ill.

INDIANA — Walter Reeves, R 3, Greencastle, Ind., has sent in a clipping taken from the July 26, 1953 issue of an Indianapolis, Ind., paper. Part of the clipping reads as follows:—

"Shoals (Martin Co.), Ind. The National Gypsum Company has obtained mineral rights to 1,000 acres underlying Martin County as a result of recent test borings, it was announced yesterday.

"Two other national building supply firms are in the process of getting similar rights and it is reported at least one large plant will be built here to process gypsum.

"Tests indicate a section of Halbert Township contains one of the richest gypsum deposits in the nation.

"The Martin County deposit varies from 4 to 50 feet thick and lies from 300 to 400 feet beneath the surface. Since the deposits lie under a limestone "roof" it was explained that the mineral can be mined without disturbing the surface of the ground.

"Engineers for National Gypsum Company are now sinking a large shaft on a farm two and one-half miles east of Shoals, south of U.S. 50."

IOWA—G. H. Halden, 270 Lewis Ave., Millbrae, Calif., in his letter, dated Aug. 5, 1953, sent in the following notes:—

"I am sending you a small piece of a geode, which I think may interest you.

"It is part of a half-section given to me by Mr. R. F. Henley on August 29, 1952, when he called at my home to see my mineral collection; and I am proud to say that he found the collection of sufficient interest to return on September 4th to give it a more thorough going over.

"After Mr. Henley's first visit, when I had a chance to examine his present in detail, something about it struck me as very familiar; the more I looked at it, the more it reminded me of something I had seen before.

"I finally succeeded in finding its counterpart in the illustration accompanying an article, (Goethite in a "Keokuk" Geode), by W. D. Keller and Cornelius S. Hurlbut, Jr., on page 508 of the June, 1948, issue of ROCKS AND MINERALS. When Mr. Henley returned for his second visit, I drew his attention to my "find."

"When you receive the piece I am forwarding, you will notice the striking resemblance to the above mentioned illustration.

"The well-terminated, individual quartz crystals forming the drusy layer lining the interior of the geode average about three to five millimeters in diameter. They have a pale yellowish tint, due to being covered with a thin film of (presumably) limonite.

"The small blackish crystals are scattered fairly evenly over the surface of the drusy quartz, at the rate of about four to the sq. cm.. They average about one mm. in length and about 0.2 mm. in diameter; are blackish-brown, with subadamantine luster; some show a faint irised tarnish by reflected light; their habit is prismatic, vertically striated.

"I don't have the facilities for subjecting these crystals to test similar to those outlined in the above mentioned article, but employing the common pyrognostic tests (Brush - Penfield) I found the crystals to be, principally, hydrous iron-sesquioxide, with less water than I should have expected from Goethite and the color of the streak inclined more towards Hematite. However, on the

basis of their physical characteristics, I consider the crystals to be Goethite, possibly partly altered to Hematite.

"As soon as I felt satisfied that this specimen represents an other occurrence of Goethite in a geode, I decided to send you a piece of it; but about that time I was unfortunately hit by an automobile, incapacitating me for seven months. It was, therefore, not until a couple of weeks ago that I got around to writing to Mr. Henley asking for more detailed information about the source of the geode.

"In his reply, Mr. Henley wrote that the geode had been given to him by Mr. Marvin Roy, 26 Rosemont Place, San Francisco 3, who obtained it together with other geodes while on a collecting trip in Iowa together with Mr. Tom Royster, 1182 Hershey Ave., Muscatine, Iowa. Mr. Henley suggested that I communicate with Mr. Royster for further information. Which I did.

"The following interesting data are extracted from Mr. Royster's detailed reply to my inquiry.

"The geodes were found sixty-five miles south of Muscatine, along the Skunk River, south of a state park called "Geode," west of the city of Burlington, Iowa.

"Mr. Royster writes further, that the geodes originate in a gravel layer, seven to twelve feet below the top of the river banks, from where they fall into the river bed. The geode fields (with "Geode Park" near the center) is located for a distance of seventy-five miles in a belt of about the same width along the Skunk River; crossing the Mississippi into Illinois. The geodes are not uniformly distributed over this area, but are concentrated in certain spots, of which Mr. Royster knows two, particulary good ones, where he also has found Fossil Coral, somewhat like Petoskey Stones, but yellow. Very few geodes are found in the state park. The good localities are badly infested with rattlesnakes and are, therefore, not visited by the average collector.

"Many different kinds of crystals are found inside the geodes. They run from hair-size to ¾ inch. The black crystals (Goethite) are just found now and then."

KANSAS—D. E. Wells, 319 Rahm, Salina, Kans., sends in the following note relative to an occurrence of massive gypsum and fibrous vein gypsum near his city.

"From the intersection of Iron and Santa Fe in Salina go east on Iron. At Marymount College go north or left a short distance then turn east again and continue until you cross new concrete bridge across Gypsum Creek. At first corner east of bridge go left or north about ½ mile. Enter gate and go west to creek. Cliffs of gypsum are to the north of point on creek when approached due west from gate."

KENTUCKY—Robert M. Rich, 1627 Pratt Blvd., Chicago 26, Ill., tells us in his letter of Sept. 15, 1953, about visiting Kentucky:—

"I went to Knob Creek, (Meade Co.) Kentucky where I collected some fossils. There are brachipods, crinoids, and other shells to be collected. The fossils are found in Knob Creek. The creek is to the right of Abe Lincoln's boyhood home."

LOUISIANA—"This is your "Cousin Emily" reporting from Louisiana. I haven't had a chance to work in a salt mine as yet but will get to it later. With Ray Lewis of Mt. Holly, Ark., helping, we are going to try to take care of Louisiana for you.

"The colorless xls of selenite (gypsum) enclosed are from Caldwell Parish, La. The locality is on the Ouchita River (27 ¾ miles south of Columbia) at the mouth of Bayou Dan in an outcrop of sea fossils. Sharks teeth and about 40 other sea fossils are to be found here.

"The green stone (greenish chert) is from an old Indian camp site in West Carroll Parish, La., on Bayou Macon, 8 miles east of Epps.

"Will be reporting again."

(The above item, dated Sept. 18, 1953 was sent in by T. E. Bryant, Junction City, Ark. This is another indication that

the Editor's Cousin Emily has made a hit with our many readers, see R & M May June, 1953, p. 246).

MAINE — Raymond Conover, Stone Ridge, N. Y., has sent in an item relative to the low-grade manganese ore deposits around Bridgewater, Aroostook Co., Me.

"Bangor and Aroostook R. R. reports that the first three carloads, 200 tons of the ore, have been sent by Penobscot Development Corp. to the E. S. Nossen Laboratories at Paterson, N. J., for testing a new manganese extraction process."

MARYLAND — Jack McWilliams, Oakhill Rd., near Sherwood Road, Baltimore 12, Maryland, sent in an item dated, June 15, 1953, which had been overlooked and we are very sorry. The item follows:—

"Did you ever hear of the quarry, at Smithsburg, Washington Co., Maryland? We have gone several times and have found some good specimens of stalactites. It is a limestone quarry and has been abandoned for quite some time. There are several caves and large sections of stalactites have fallen down and from them we brought home quite a collection."

MASSACHUSETTS—At the Eastern Federation Convention held last October in Paterson, N. J., an interesting specimen seen on display consisted of small red quartz xls associated with greenish datolite xls. Locality was Weston, Suffolk Co., Mass.

MICHIGAN—Fred Dustin, 709 S. Fayette St., Saginaw, Mich., sends in the following directions for reaching a limestone quarry near Omer, Arenac Co., Mich.:—

"Here is a rough sketch of how to get to the Arenac Quarry on Michigan M-23. Limestone quarry for road metal. Filled with curious shapes of chert nodules. Much brown calcite crystals and occasionally others. Finely fluorescent, I understand.

"From the Court House in Saginaw, proceed northwest to Bay Street. Turn due north on Bay St. and proceed to the junction of M 10 and M 47 a half-mile or so, and continue due north on 47, and continue on through the outskirts of Bay City, through Pinconning to Standish. Turn right northeast on 23 and continue to Omer, and five miles east the quarry is on the right hand side, with an abandoned quarry on the left. Both of these quarries are on a low limestone ridge which the highway crosses. It extends northwest and southeast from Point Au Gres, on Saginaw Bay northwest about 11 miles. About 3 to 4 miles east of this quarry, a road on the right runs down to Point Au Gres, where in the clear water, many chert nodules may be seen embedded in the limestone, and a low ledge back from the shore may be worthwhile looking at. At Point Lookout, further along the highway, beautiful pebbles of many varieties of fossil coral can be picked up along the shore, in the water."

MINNESOTA—Beautiful pink marble, known as Kasota Marble, is quarried in Kasota, Le Sueur Co., Minn.

MISSISSIPPI — Moody's Branch, a small tributary of Pearl River within the city limits of Jackson, Hinds Co., Miss., has cut a narrow gorge through a dark green, speckled, calcareous sandy marl that is full of glauconite and finely preserved fossils such as shark teeth, crabs, etc.

MISSOURI—A coarse xline mass of galena and a container full of dark gray coarse chat (crushed calcite and smoky quartz) have been received from Mrs. Ray F. Bowman, 218 River Park Road, Loves Park, Ill. The specimens come from the Mine La Motte lead mine at Fredericktown, Madison Co., Mo. In her letter, dated Aug. 20, 1953, Mrs. Bowman writes:—

"The enclosed tube of sand isn't technically sand but "chat" from a lead mill. However I think the occurrence is interesting. Hope you do too.

"When Renault came up the Mississippi in search of gold, in the year 1720, he established the mine now known as "Mine

Entrance to old mine La Motte. Fredericktown, Mo. The collector is Mrs. Ray F. Bowman.

La Motte."

"The old mine isn't really an open pit but more of a strip mine since it covers so much area and is quite shallow, as you can see by enclosed picture. However they have sunk a shaft and built a modern mill nearby.

"The specimen of galena is also from the old mine.

"This mine has a long and very interesting history and is still in operation. The people are very friendly and some of the older folks tell some facinating tales of early mining methods."

MONTANA — In Ravalli County, Montana, about 12 miles east of Darby and on Crystal Mountain, is a large fluorite mine that was recently discovered. The fluorite is chiefly faintly purple but green is also common.

NEBRASKA—A volcanic ash deposit, 28 ft. or more in depth, occurs 3 miles north of Royal, Antelope Co., Nebr.

NEVADA—C. J. Appling, 2106 Ferger Ave., Fresno 4, Calif., in a letter writes:—

"I have thought for a long time that I would like to write you about our rock trips. I have a hike buddy, also a rock hound whose special hobby is photography.

"On a trip to Nevada we collected lots of petrified wood and agate. We also got some very fine azurite, malachite, and cuprite from the Copper King Mine in Carlin Canyon where we were told to help ourselves. We also paid a visit to Tuscarora, an old silver mine where the country rock that had been taken from the mine is wonder stone. There are thousands of tons of it with many beautiful patterns. As the mine has been long abandoned we did not need any invitation to take what we could. Incidentally there is at Tuscarora the most elaborate private museum I have ever seen. I could not help wondering where the people live in a house as full of rocks and curios as that house is besides there are at least five tons of petrified wood in the yard, *beautiful stuff!*

"I thoroughly enjoy your World News. Right now I am trying to get a rock specimen from each state. I still have ten to go. I will get some color photos of the collection and send to you with a description, that is if you think you might like it."

NEW HAMPSHIRE—A letter, dated Nov. 3, 1953, comes from Philip Morrill, RI, Derry, N. H. It reads:—

"Some years ago you wrote me in regard to a garnet marked, "Windham". I assumed it was Windham, Me., where

yellow garnets are still found at the old staurolite location. Afterwards I found Windham, N. H., listed as a garnet location by Hawes about a hundred years ago. Although I lived in Windham, I was unable to find any trace of this localty.

"More recently, I have been cataloging Vt. locations and find Windham, Vt., is listed as a garnet location by Hitchcock, 1861.

"Just think, 3 Windhams and each a garnet locality—how surprising!"

NEW JERSEY—In a recent letter from W. H. Hayes, 35-22nd St., Irvington 11, N. J., he writes:—

"I am sending you a peculiar find that I made in 1946 in a glacial deposit in Passaic County, N. J., near the Passaic River to the southwest of Paterson. It has been rolled by glacial action, is pectolite, and even in its present condition retains its fluorescence under a long wave U. V. light. The exact location is between West Paterson and Little Falls, as the foot of the basalt ridge in which the well known trap quarries are located. I hope it will be of some interest to you."

A letter, dated Dec. 12, 1953, comes from Bevan French, 98 Alexander Ave., Nutley 10, N. J. who writes:

"I am sending you some information on a New Jersey mineral occurrence that I think you will be interested in.

"The mineral is erythrite, or "cobalt bloom." It has been reported once before in New Jersey, in your magazine, I believe, as coming from the Snake Hill quarry.

"A specimen of badly weathered schist was collected on the Buckwheat Dumps at Franklin, New Jersey, during the field trip of the Eastern Federation of Mineralogical and Lapidary Societies on October 11, 1953. Coating part of the specimen was a distinctly pinkish material later identified under the microscope as erythrite.

"The specimen is, I believe, the first to be collected from Franklin. A specimen of the same mineral came out of the mine in 1947, but as far as I know, this represents the first time that the mineral has been collected from Franklin.

"Since no primary cobalt minerals have been found at Franklin, the occurrence of the erythrite might seem to be something of a puzzler. It is my opinion that the mineral formed from cobaltiferous pyrite under the long weathering while the specimen was on the dumps.

"Although the specimen is by no means attractive, it is very welcome to my collection, since I am a systematic Franklin collector. The mineral is very rare there, and represents a very interesting find."

NEW MEXICO—Pink needles of sillimanite up to ¾ in. long occur as radiating clusters in brownish black schist in Petaco District, (Rio Arriba Co.) N. Mex.

NEW YORK—An interesting specimen of petrified wood has been found at the Catskill Game Farm in Greene Country, N. Y., about 8 miles west of the town of Catskill. The specimen may have washed down from Gilboa where the oldest petrified forest in the World was uncovered in 1921. Gilboa, in Schoharie Co., is about 33 miles N/W of Catskill.

The specimen was found at the foot of a small bank alongside the road, Sun. June 21, 1953, by Margie Bourne while on a visit to the game farm with her husband, Eddie, and the O'Connor's (Mr. and Mrs. John O'Connor and daughter, Marilyn) all of Peekskill, N. Y.

The petrified wood—a dark gray sandstone (stained brown)—looks like a sawed slab with rough bark surrounding it completely on the edges. It is 3 x 8 x 1 inches in size and weighs exactly 1 lb.

NORTH CAROLINA—In the last issue we mentioned a trip made to North Carolina by Jeffrey Boehlert, 135 S. Finley Ave., Basking Ridge, N. J. While attending the Eastern Federation Convention held in Paterson, N. J., Oct. 8-10, 1953, we met Jeffrey and his parents and saw a number of specimens that he had collected in North Carolina. One of them consisted of a ½ inch deep

green emerald xl in mica schist (on gray pegmatite) 2½ x 3 inches in size and which was found in July 1953. This was the finest emerald specimen we ever saw from the locality——Crabtree Emerald mine on Big Crabtree Mt., Mitchell Co., N. C.

His sister, Judith (13 years old), showed us some deep red rubies (pretty ones) which she had collected in Cowee Valley, near Franklin, Macon Co., N. C., on the same trip. The following letter, dated Oct. 11, 1953, and sent by her father (Harold Boehlert), tells where the rubies were collected.

"I promised to send you the location of the place where my daughter found four rubies last July.

"The general area is known as Cowee and the workings are on the property of Mr. Weaver Gibson. His address is Route 4, Franklin, N. C.

"My daughter, Judith, found these specimens by washing clay and sand in a nearby brook, using the conventional screen for panning. The Cowee ruby mine is quite well known in Western North Carolina.

"We enjoyed our visit with you at the show."

NORTH DAKOTA—North Dakota is the largest producer of lignite coal in the nation. It gets 92 per cent of its total production through surface mining methods. One of the largest deposits is near Wilton in Burleigh Co.

OHIO—The following letter, dated Sept. 26, 1953, comes from Mary Lou Ruch-Hirzel, 5019 N. High St., Box 9, Columbus, Ohio:—

"Along with our work, at the Ohio Division of Geological Survey, Miss Doris Runkle and I have become desirous of extending help of a personal nature to persons seeking information on collecting Ohio minerals. We are experimenting along various lines. One of which is to have my parents, who reside in northwestern Ohio, where quarries abound with minerals in crystal form, contact the person and give them aid in any phase with which they are unacquainted; such as securing passes, which mineral may be found at which quarry, location of quarry, etc. These points can be very puzzling for a beginner. I know from experience. I am going to digress to say that for this particular type of aid, I owe a debt of gratitude to Mr. Cal Gettings and family of Toledo, Ohio, a family that is a pleasure to know.

"This is a report from my folks on the first party they conducted to quarries. Although, in this case, my folks said they feel they received more information than they gave. The party was Mr. and Mrs. Jack B. Child, son Jack Jr., 9 years of age and daughter Dallas Ann, 6 years of age, of Akron, Ohio. I didn't meet them, but, judging from all the nice things my parents said about them, I would like to.

"They gathered minerals from three quarries during the day. In the morning, Sunday, September 20th, they met at the Pugh quarry near Weston, Ohio; then, at approximately, 1:00 P.M., they went to the quarry at Waterville, and last to the quarry at Clay Center.

"At the Pugh quarry they found ample marcasite, small crystals of fluorite and dolomite, some barite and beautiful unbroken, single and grouped crystals of golden dog-toothed calcite, in newly opened cavities.

"At Waterville quarry they collected alabaster, nice pieces of celestite showing crystal terminations and a pocket of drusy calcite with numerous good sized crystals of sulfur. But, my mother was disgusted, because she hadn't made a good find of selenite. On each previous visit to this quarry she had never failed to locate at least one fairly good sized mass. Then Mrs. Child saved the day; she found a large mass of selenite in a pocket with large celestite crystals.

"At this quarry we find the selenite form of gypsum in conjunction with celestite crystals; whereas, if celestite is absent the gypsum, usually, is in the form of alabaster.

"At Clay Center quarry, after a half hour, they decided it had very little to offer without diligent search, and the

sun, by this time, being very low in the western sky, they retraced their steps to the cars, to proceed on to the two Woodville quarries, for which they had also secured passes.

"Near the parked cars was a large rock, at least 2½ feet in diameter, that exposed a small pocket of fluorite; but, which was so difficult to chisel out that numerous previous collectors had, judging from the chipped surface, decided it wasn't worth the labor. Mrs. Child stopped at this rock and called to the men, asking if they wouldn't attempt to break it with the sledge hammer. My mother said the men's agreeing voices held an undertone of 'silly notions to which we must comply'; but, this undertone became exclamations of delight when the rock proved to be a bonanza. The rock was filled with massive fluorite. The fluorite was dark brown, and broke with shining cleavage faces, making fairly nice specimen pieces. By the time the larger pieces were loaded, the sun had set, and the remaining small pieces were gathered by the aid of Mr. Child's mineral light, to which the fluorite reacted very nicely.

"After this find the party was satisfied to call it a day and departed for their respective homes."

OKLAHOMA—Allen Graffham, Box 419, Ardmore, Okla., contributes the following item for his State.

"Near Paoli, Garvin Co., Okla. the Permian red sandstone carries considerable amounts of malachite of poor quality. The pore space in the sand is filled with the malachite, and there is also buckshot size nodules of malachite in the underlying clay bed. A road cut exposes the mineral at this locality which is the first hill above the Washita River Valley about one-half mile east of town."

OREGON—Some few months ago we received the following item from Lloyd Colburn, 1012 Kessler Blvd., Longview, Wash.

"An article by Robert D. Roots on Friday Ranch Thunder Eggs recently appeared in R & H (May-June 1952). It happens that I learned about Friday's Thunder Eggs about 1924. A secret geological group meeting here knew of the locality but kept it quiet, however, I learned of it also and made a trip there. We paid $2.50 per person and could take home a carful of thunder eggs. On our first trip we dug a hole 10 ft. long and 4½ feet wide. If the digging was in pumice it was easy work but if through rhyolite the work was very hard. Now the area is all bulldozed and you can dig them right out with no hard work.

"One plume agate found brought $25.00 per slice; still have some good slices left. One geode had a perfect Madonna's face. I recently cut a perfect calf's head, ears and all down to the shoulders. It is about 2 x 2 inches in size, showing blades of grass on the edge of the cabochon."

Friday Ranch is near Madras, Jefferson Co., Ore.

PENNSYLVANIA—In the July-Aug. 1953 R & M (p. 370), David E. Snell, 431—2nd St., Weatherly, Pa., reported that schroechingerite had been found at the carnotite locality in Mauch Chunk, Carbon Co., Penn.

We met Mr. Snell at the Eastern Federation Convention in Paterson, N. J., last October and he told us that the mineral has now been identified definitely as uranothallite (a carbonate of uranium and calcium). It was identified by x-ray analysis by the government.

RHODE ISLAND—Agates have been found in glacial drift in Cranston, Providence Co., R. I.

SOUTH CAROLINA—Attractive flat pebbles of smoky quartz have been found on the beach along the Atlantic Ocean at Myrtle Beach, Horry Co., S. C., by Mrs. Hattie Ofshanny, who formerly resided in Charleston, S. C. Mrs. Ofshanny now resides at Campus Village, Apt. 56, Silver City, N. Mex.

SOUTH DAKOTA—Beautiful black dendrites (pyrolusite) on buff colored compact limestone have been found about 4 miles from Deerfield, Pennington Co.,

S. D., by John P. Connor, Box 522, Armour, S. D.

TENNESSEE—A letter dated Oct. 12, 1953 comes from E. E. Johnson, 110 E. Magnolia Lane, Oak Ridge, Tenn.

"I am enjoying my second copy of R & M, like it very much.

"Your news section on mineral occurrences caught my eye, especially about zinc ore in East Tenn. I visited the Young Mine of the American Zinc Co. near New Market, Tenn. They are down about 150 feet, expect to strike the ore horizon at 850 or 900 feet.

"Picked some pieces from the dump. The engineer, a Mr. Orton, was quite accomodating. No ore yet. We decided to visit the Graselli Mine of the same company and I gathered some specimens there, it's at New Market, not many miles from the Young opening. Then we drove a few miles toward Jefferson City, Tenn., and looked over the zinc mine of the Tenn. Coal and Iron Co.

"I am sending you two zinc ore specimens and some of the country rocks from the Young opening."

Four specimens arrived. Two were from the dumps of the Young mine (white masses of calcite with dark gray compact limestone). The other two specimens were greenish brown xline masses of sphalerite—one was from the Graselli mine and the other from the Tenn. Coal & Iron Co. mine. All these zinc mines are in Jefferson County of eastern Tennessee.

TEXAS—A letter, dated June 2, 1953, comes from T. R. Havins, Box 25, Brownwood, Texas. A paragraph reads:—

"Knowing your interest in fine mineral specimens, I want to tell you about a most unusual one I have recently collected.

"It is a hematite pseudomorph after pyrite. It measures 15 x 11 x 8. Only one side carries a great number of crystals. But this side is superb. The specimen weighs 70 pounds. This item comes from 3 miles south of this city. (in Brown Co. of Central Texas). It occurs in a soft limestone of lower Pennsylvanian Age. The outcrop extends for nearly a mile along an escarpment."

Hematite after pyrite. Found 3 miles south of Brownwood, Texas, by T. R. Havins.

UTAH—Dr. A. L. Inglesby, Torrey, Utah, sends in an interesting item. His letter, dated Oct. 30, 1953, reads as follows:

"Recently a cave was opened in an old gold mine in the Tushar Mt., Piute Co., Utah.

"The cave was lined with quartz xls coated with manganese and the bottom of the cave was a deposit of fine sand-like substance which was the same as the coating on the xls and I am told it contains, in addition to manganese, quite a percentage of silver and gold but I have not yet had an opportunity to have an assay."

A number of xls were received from Dr. Inglesby. One is a beautifully xled quartz group——5 x 6—consisting of slender quartz xl, the largest 5½ inches long. All xls are heavily stained black by manganese (wad). Groups of drusy xls, stained and coated by the earthy black wad, were also included.

Another letter, dated Nov. 23, 1953, comes from Dr. Inglesby. It reads:

"Some of these quartz xls are 8 to 10 inches long and some of the groups weigh 50 or more pounds. The cave is in a tunnel 4800 feet. Quite a walk in a wet tunnel and some job to carry out the xls.

"This mine produced a lot of rich gold 40 years ago and has only recently been reopened. It is in the Tusher Mts. where several famous gold mines produced early in the century."

VERMONT—Cyanite has been found in bluish blades in schist in Thetford, Orange Co., Vt.

VIRGINIA—At the Eastern Federation Convention held last October in Paterson, N. J., we had an opportunity to talk "minerals" with Benj. J. Chromy, 301 Westory Bldg., Washington 5, D.C. Among other things, Mr. Chromy told us of collecting last June some native silver and bornite xls at the Centreville trap rock quarry in Centreville, Fairfax Co., Va. The native silver occurred as little wires 1/16 inch long (micromounts) nicely spread out on green prehnite which were associated with xls of apophyllite.

WASHINGTON—The following letter, dated Oct. 12, 1953, comes from M. M. Groben, Harbor Plywood Corp., Amboy, Wash.

"I have subscribed to R & M for several years now, and in my opinion it is the best magazine on mineralogy that is published. I feel that if I can contribute in any way, I will be only too happy to do so.

"Recently, while working in the forest cruising timber, I happened to run across, by chance, an old road cut along the Muddy River, Skamania County, Washington, in which there were some very good specimens of white stilbite. Some of these crystals were as long as one inch in length and many were doubly terminated."

WEST VIRGINIA—Robert Jones, 315 Race St., Cumberland, Md., has sent us some small xls of pyrite in dark gray limestone. The specimen was found in a large boulder at the Municipal Airport, Ridgeley, Mineral Co., W. Va.

WISCONSIN—Cinnamon brown xls of zircon, up to 7 ¼ inches in length, have been found in pegmatite about 2 miles north of Mellen, Ashland Co., Wisc.

WYOMING—Interesting specimens of green serpentine with narrow veins of black chromite have been found in Glenrock, Converse Co., Wyo.

AUSTRALIA — A subscriber in Queensland, Australia, who does not want his name mentioned, sends in some notes on tekkites and other rare glasses. In his letter dated Aug. 3, 1953, he writes:—

"To be honest, here in Australia tekkites are worthless; because of their rareness, the public and jewellers never heard of them and they are known only to very few mineralogists. We have also the hematite opal which is often confused with the common brown boulder opal and matrix. The difference is, the hematite opal is far harder and is only found in one locality west of here, on the eastern border of Simpson's desert, where it hardly ever rains. I have only been able to get into this country 3 times during the past 20 years. On each occasion I had to leave just when the work was getting interesting because the rock hole dried up. There are no springs in the land.

"Tachylyte, a speckled glass, is closely allied to the tektites, but far rarer. The tachylyte enclosed I found N. E. of Hughenden, Queens, at the head waters of the Flinders River, some 45 years ago. This country is not badly watered, though very dry. During the past 3 years we have only had 7 hours of light rain which fell during last Feb. and not a drop since. Dust is everywhere even on the leaves of the trees and within the town itself, everything in the house, inside cupboards etc. is covered with fine atomic dust. It is hopelesss to sweep it, a new layer falls every day. No doubt you have the same trouble in U.S.A. desert country.

"But, the worst drawback to the tachylyte country is one can only prospect on foot. Horses and mules perish from eating the deadly poison bush that infests it, motors are out, country too broken, deep canyons. A Helicopter would

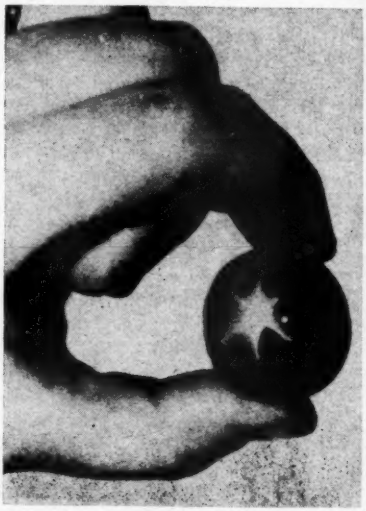
solve the problem. Needless to say, this country is uninhabited. Most of the tachylyte country is desert sandstone with sandstone in the gorges 1000 ft. down. There are large coal deposits untouched as yet. It is on the surface of this country where the tektites and other glasses are found. Moldavite, 3 varities—light olivine green almost colorless—peridot green to a deep bottle green which looks almost black and is usually coated with a white lime which can be picked up on the surface. Tachylytes, too, which are often coated and not as hard. The pale green moldavites are lighter than the tachylytes and are the same as opal (a little opal too, has been found in this country). Both the green moldavite and tachylyte are harder and heavier than glass, in fact about the hardness as nepherite.

"I am enclosing herewith a few samples of stone associated with the tachylytes, the most noticable is the white limestone which is quite hard. Though one often finds this white limestone away from these stones they are always associated with it. Further, at Rubyvale many of the sapphires are found enclosed in boulders of this stuff and is know to the miners as white clinker. Many sapphires have been destroyed when breaking out this clinker in the wash. If you publish this letter please don't mention my name. I am swamped with letter, wanting further detail. ROCKS AND MINERALS has untold numbers of readers besides their friends who, borrow it, not to mention about one million or more amateur Lapidaries in U.S.A. alone and others all over the world. I am not young as I was.

I started collecting rocks in Southern India, at 6 years of age in 1886 and watched the natives cutting stone—my first lapidary lesson. As soon as rain falls I hope to be out again prospecting, after black opal 600 miles south and will let you know as to the origin of those stones."

CANADA—A few months ago we received an interesting item that was sent in by G. T. Taylor, 237 Darling St., Brantford, Ont., Canada. This was titled "Canada rich in huge precious stones", two long columns in length, and was clipped from the Sat. June 20, 1953, issue of "*The Globe and Mail*" (Toronto, Ont., Canada).

CEYLON—A beautiful star sapphire, from Ceylon, is a recent purchase by Allen Caplan, 2 West 46th St., New York 36, N. Y. Mr. Caplan, an importer of precious and semi-precious stones, sends in the following information regarding the gem, called "Star of Lanka". "It is a blue star sapphire with sharp 6-ray star and weighs 191 carats."



"Star of Lanka" 194 carats blue star sapphire with 6-ray star (about 1/2 size). Property of Allan Caplan, importer of precious and semi-precious stones, 2 W. 46th St., New York 36, New York.

ENGLAND—Silver colored hexagonal plates of lepidolite have been found with topaz and cassiterite at St. Michael's Mount, Cornwall, England.

KOREA—Steve Halaico, a subcriber who is on active duty in Korea, has sent in a number of rocks and minerals which he had picked up in a stream bed 2 miles south of Wonju, Korea. Among the specimens was a small but deeply pink rose quartz.

MEXICO—On Dec. 1, 1953, Baja California, Mexico's newest state, its 29th, inaugurated Braulio Maldonado its first elected governor. It was a solemn, historic occasion. Also it was a great show. It was witnessed by the President of Mexico, the Governor of California and hundreds of other dignitaries from both sides of the border.

Baja California (Lower California) has been divided into two districts, northern and southern. It is the northern district, with Mexicali as its capitol, which became Mexico's newest state.

La Paz, near the southern tip of Baja California, is the capital of the southern district which is still administered as a territory by Mexico.

Now that Mexico's least known area has gained world recognition, with new highways being rushed to completions, towns expanding, and other improvements springing up everywhere, Baja California will be attracting mineral collectors by the thousands and we hope some of them will report to R & M on what they may find.

We are indebted to Ronald L. Ives, 4455 Genesee St., Buffalo 21, N. Y., for calling our attention to the new state with letters and clipping. While on a recent trip to the southwest he sent us a clipping "Baja Californians swear in Governor" from the Wed. Dec. 2, 1953, *Los Angeles Times* (Los Angeles, Calif.)

NEW ZEALAND—In the Sept-Oct, 1953, issue of R & M, we printed an item about Nephrite from New Zealand. Unfortunately the name of the locality was mispelled and it was C. Osborne Hutton, Professor of Mineralogy at Stanford University, Stanford, Calif., who called the matter to our attention, in his letter dated Oct. 12, 1953.

"At the top of page 492 of your September-October issue of ROCKS AND MINERALS I noticed the statement that a specimen of nephrite was found at "Otago" Pass, near Christchurch. I suggest that this is an error since I know of no Otago Pass near Christchurch. Instead I believe that Otira Pass may have been the locality that either the jeweler or Dr. Gudger meant. However, I should point out that Otira Pass is approximately 95 miles west of Christchurch, hardly near that city. Finally it should be noted that the nephrite localities are to the west of the Southern Alps, Otira being one of the most important passes linking Canterbury and Westland."

The information about the nephrite was given us by James R. Gudger, M. D., 144 Langdon Ave., Irvington, N. Y., whose letter of Nov. 13, 1953, is as follows:

"Thank you for letting me see the letter from Professor Hutton correcting my spelling of the place in New Zealand where nephrite is found. It was exactly ten years ago November 11 when my train stopped at Otira for the usual tea. The day was cloudy and I could not see the beauty of the location. The merchant from whom I bought the rock gave me the correct location of its origin, and Professor Hutton is entirely correct. I am grateful to him for pointing out the error.

"His letter sent me to the maps, records, and books and from Wise's New Zealand Index of 1939 the following is copied.

" "Otira, Westland. 53 miles southeast from Greymouth by rail, and 95 miles west from Christchurch. On the overland route from Christchurch to Greymouth at the western exit of the tunnel 5¼ miles long. There are two hotels, and post, telegraph, and money order office. Wild and picturesque environs; the mountain scenery is beautiful in the extreme, and a day spent here is full of delight. Name means "out of the sun", from the gorge being much in the shade. Population, 277. Doctor at Kumara, 40 miles. Shooting, deer and chamois. Fishing." "

"This location is about 42 degrees 50 minutes S. lat. and 71 degrees 40 minutes E. lon. Along the coast south of Hokitika (meaning shallow water) I observed from the air floating dredges busy mining gold on the trip toward Waiho and the Franz Josef Glacier eighty-nine miles from

Hokitika. On the return trip the pilot and I were alone and he tipped the plane up sideways as we passed over Hokitika explaining that he wished to see whether his wife was outside waving to him as that day was the date for her to go to the hopsital for their baby!

"Thank you again for your interest and for the nice notice in ROCKS AND MINERALS."

SCOTLAND — Melanterite, in fibers of green color, occur in the aluminous shale at the old coal mine at Hurlet, Renfrewshire, Scotland.

SOUTH AFRICA—A fine specimen of brownish fibrous asbestos, called amosite, and coming from Malipsdrift, Haenertsberg, Transvaal, South Africa, has been received from Miss Adi Redman, Geological Museum, Public Library, Johannesburg, South Africa.

The name amosite comes from the initial letters of the company, "Asbestos Mines of South Africa."

SPAIN—Juan Montal, Plaza Sagrado Corazon I, Villafranca del Panades, Spain, has been doing some collecting lately. In his letter, dated Nov. 4, 1953, he writes:

"I am pleased to inform you that I have found cinnabar xls with native mercury (small drops) in Almaden. Also good pyromorphite xls in Santa Eufemia. The oldest quartz mines at Villasbuenas are working at present and from them I have received citrine quartz, rock crystal, and dark brownish quartz."

The above localities are all in Spain; the mines at Almaden are among the largest and oldest mercury mines in the world.

SWEDEN—A dark green epidote xl, associated with pinkish orthoclase, and whose locality is Ronneby, Blekinge Province, Sweden, has been received from Gerhard Koppen, Skanegatan 3, Nybro, Sweden.

Heaven Forbid! Don't Print My Name

Editor R & M:

Just a note about the ad I placed in the last issue of ROCKS AND MINERALS. Please DON'T continue it in the Nov.-Dec. issue. I've been completely swamped with replies. I haven't had time for anything else since the ad appeared. It has gotten to the point where ROCKS AND MINERALS is just too good of an ad medium. The week before last for instance I received four boxes Monday and at least one every day the rest of the week. With Christmas coming up the postage is breaking me on the return shipments. If I continue the way it is now I just won't have any money left for presents. I've come to the conclusion that if it wasn't for me and perhaps a few more trade-happy rockhounds like me the post office department would go broke

P. S. Please don't print this or at least do not use my name; it might bring me more replies. Heaven forbid ! !
Nov. 30 1953

Editors' Note: From a subscriber in the middle west who doesn't want his name and address printed.

Keep Sending R & M!

Editor R & M:

I think your magazine is simply wonderful. I have tried other magazines but I still like R & M the best. R & M has articles about every state and not just a few.

I am only 13 years old but I have been collecting rocks and minerals for 3 years and have quite a big collection. Keep sending me your magazine.

Miss Eileen Philpott
2200 Wascana Ave.
Lakewood 7, Ohio

Nov. 6, 1953

Trip With Editor an Education!

Editor R & M:

It is a great privilege to have your magazine. We appreciate it greatly and enjoy it more, as time goes on, and we have more leisure time.

We have done no travelling this year. The trip you took to Colorado, I enjoyed with you, in spirit, wish it could have been "in the flesh," for it would be an education to go along with you and stop places.

Mrs. Benjamin H. Birchall
234 East Penn St.,
Philadelphia 44, Pa.

Oct. 29, 1953

THE SAND COLLECTOR

Conducted by PETER ZODAC, Peekskill, N. Y.

Items on Interesting Sands Wanted. — Please Send Them In.

Gold Sand from Klamath River, California

George L. Goodrich, Box 124, Mt. Shasta, Calif., has sent in a number of sand samples. In his letter, dated Sept. 21, 1953, he mentions one of the samples.

"The meagre sample in No. 2 envelope are concentrates from endless gold pannings on the Klamath River near Seiad creek, Siskiyou Co., Calif. Seiad creek is famous for its chromite deposits although the sample I sent comes from further up the Klamath."

This is a fine grained black sand. It consists chiefly of lustrous black magnetite (some show crystal faces) with minor amounts of black chromite, smoky quartz, green epidote, gray feldspar, and yellow gold.

Scheelite Sand from Inyo Co., California

H. Allan Mitchell, 162-55—13th Ave., Whitestone, N. Y., has also sent in a sand sample which he describes in his letter, dated Oct. 18, 1953.

"This is a panning sample from a stream bed a few miles below the Pine Creek tungsten mine (near Bishop) in Inyo Co., Calif. The concentrate is largely scheelite, both fractured xls and pieces. We panned about 30 pounds with a gold pan and does it fluoresce!"

It is a coarse brownish sand consisting almost entirely of whitish to brownish scheelite which fluoresces bluish under the Mineralight. Some green epidote and smoky quartz are also present.

River Sand from Woodlake, California

From the head of St. John's River, at Woodlake, Tulare Co., Calif., we have a sand sample obtained for us by Ben J. Sterling Jr., Rocky Glen Amusement Park, Moosic 7, Penn.

This is a medium grained dark gray sand. It consists of quartz (colorless smoky, brown), biotite (black flakes but many are bronzy), pinkish feldspar, and black lustrous magnetite. A tiny amount of pinkish garnet is also present.

Beach Sand from Baker's Haulover Beach, Florida

Another sand sample has been obtained for us by Ben Sterling, Jr., of Moosic 7, Penn. This comes from Baker's Haulover Beach, near North Miami, Dade Co., Fla. It is a coarse brownish sand consisting chiefly of sea shells (brown, colorless, white) with some colorless quartz.

The sand was collected by a friend of Mr. Sterling's, Tom Leahy of Miami Beach, Fla., who sends in the following bit of information.

"Baker's Haulover Beach, located on the Sunny Isles several miles north of the city of Miami Beach, gets its name from the fact that it is located on a narrow strip of land between the Atlantic Ocean and Bay Biscayne. Years ago the Seminole Indians used to haul their canoes over this strip of land from the bay to the ocean."

Limomite Pseudo Pyrite Sand from Idaho

Miss Viola Shull, Challis, Idaho, has sent in an interesting sand which comes from Ballou Creek Placer, Lemhi Co., Idaho. This is a gold placer and Ballou Creek is a tributary of Silver Creek, she informs us.

This is a coarse dark brown and gray sand. It consists chiefly of dark brown limonite pseudo after pyrite cubes (some are lustrous, perfect cubes) with clear and milky quartz, also black magnetite. A small amount of yellowish limonite and green epidote also present. No gold seen.

Beach Sand from Reid State Park, Maine

Reid State Park is near Georgetown, Sagadahoc Co., Me. A sand sample from the beach and a map of Maine showing the location of the park (on the southern coast of the state and on the Atlantic Ocean) have been sent in by Roy M. Fitts, 39 E. Elm St., Yarmouth, Me.

This is a coarse brownish sand. It consists chiefly of quartz (smoky, colorless, brownish, white) with pink feldspar, colorless muscovite, gray and pink granite and sea shells (blue, brown, white).

Beach Sand from Salisbury Beach, Mass.

Salisbury Beach, in Essex Co., Mass., is on the Atlantic Ocean and is a noted amusement area. From this popular beach we have a sand sample that was sent us by Frederic W. Spedding, 18 Pleasant St., Lawrence, Mass.

It is a coarse brownish sand consisting chiefly of brown feldspar and quartz (colorless, smoky). Some silvery flakes of muscovite also present.

Creek Sand from Ethlyn, Missouri

From Bobs creek, about 3 miles north of Ethlyn, Lincoln Co., Mo., we have a sand sample that was collected for us by Linus C. Hoffmeister, 504 W. Ripa, Lemay 23, Mo.

It is a dark gray medium grained sand consisting chiefly of quartz (colorless, smoky, some reddish chalcedony), with minor amounts of feldspar (white, gray) and brown limonite. A tiny amount of black magnetite also present.

Quartz Sand from Bartlett, Nebraska

From a sand pit located in Wheeler Co., Nebr., (about 5 miles west of Bartlett), a sand sample has been sent us by the Bedside Lapidary (C. W. Washechek), 517 E. Benton St., O'Neill, Nebr. This is a fine grained dark gray sand consisting entirely of quartz (chiefly colorless, but white, brownish, reddish also present).

Amethyst Sand from Lincoln Co., Nevada

A most pleasant surprise was showered on us last September when we received a large box containing 30 different Nevada sands from Paul O. Drury, P.O. Box 1028, Las Vegas, Nev. A map of Nevada on which the sand localities were noted, was also received. Of course we received a letter from Mr. Drury, it was dated Sept. 8, 1953, and reads as follows:

"I have sent under parcel post a box of thirty specimens (sands) and a map of the State of Nevada locating the various places from which this materal was collected.

"In several instances the material is not sand. Either the locality from which it came was of historical significance, such as the material from the tailings dump of the Sutro tunnel construction, or that from the Sandy Bowers mansion.

"The route over which the material was gathered is a thirteen hundred mile circuit of the State of Nevada, but as you can see from the map, not even the longest circuit that might be made around the State."

Among the samples was an amethyst sand from Camp Desert Rock, Lincoln Co., Nev. The label on the bottle reads: "Sand from a dry wash on U.S. 95, at Camp Desert Rock, Nev."

This is a coarse dark gray sand. It consists chiefly of quartz (purplish amethyst and smoky quartz) with lots of gray clay which gives the sand its color. Never before did we see so much amethyst in a sand as in this one!

Olivine Sand from Las Vegas Wash, Nevada

Another sand sample received from Mr. Drury is this one whose label reads: "Las Vegas Wash, Nevada, shore of Lake Mead, the largest man made lake in the world from waters of the Colorado River which are impounded by Hoover Dam."

Las Vegas Wash is in Clark Co., Nev., not far from Boulder City. The sand received is dark gray, medium grained, and consists of olivine (green, gemmy—also opaque dark green), colorless and smoky quartz, pinkish feldspar, black

ilmenite, black magnetite, and dark gray lava.

Beach Sand from Ocean City, N. J.

Ocean City, on the Atlantic Ocean, is at the extreme northeastern tip of Cape May Co., N. J. From the beach at Ocean City we have a sand sample that was collected by Mrs. Martha Hoover, 649 S. Main St., Old Forge, Penn. This is a fine grained gray sand consisting chiefly of colorless quartz, black hornblende, and some reddish garnet.

Lake Sand from Mt. Vernon-on-the-Lake, New York

Mt. Vernon-on-the-Lake is near Hamburg, Erie Co., N. Y., on the eastern shore of Lake Erie. From this locality we have a sample of sand that was collected by Mrs. Edward Sibley, 266 Chapman Pkwy., Hamburg, N. Y.

This is a reddish gray medium grained sand. It consists chiefly of garnet (pinkish to red) and quartz (colorless, smoky, white) with some black lustrous magnetite and a tiny amount of black biotite and green epidote.

Beach Sand from Cape Hatteras, N. C.

Cape Hatteras, the eastern extremity of North Carolina, is a point of a low long narrow sandy island (Hatteras island), separated from the mainland by Pamlico Sound. It is one of the stormiest and most dangerous localities (for s h i p s) along the Atlantic coast. From this locality we have a sand sample that was collected from beside the Cape Hatteras light house; it was sent us by Mrs. Helen Wiebe, 310 Beach, Mamaroneck, N. Y.

This is a dark gray (almost black) medium grained sand. It consists of pink to red garnet, brownish zircon that fluoresces orange under the Mineralight, black magnetite, colorless quartz and green epidote.

Quartz Sand from Armour, S. D.

Some few months ago we received a sand sample from John P. Connor, Box 522, Armour, S. D., but in some manner it got mislaid. His letter, dated April 9, 1953, reads as follows:

"Enclosed is a small sample of cuttings obtained from Clark No. 1, an oil exploration well being drilled near Armour (Douglas Co.), S. D. These cuttings were taken at a depth of 1200 feet with a rock drill 6½ inches in diameter. It takes about one hour to drill one inch in this rock.

"As all the granite encountered in this area is pink (?), called Sioux Falls granite, the cuttings from Clark No. 1 well (being gray), have the local experts puzzled as they can't determine from what kind of rock they come. It has been called granite, quartzite, sandstone, beach sand, etc. I would greatly appreciate your opinion on the matter."

The sample is a medium grained dark gray sand. It is all quartz (colorless to smoky). As same grains are rounded, they indicate that the rock was a sandstone.

Beach Sand from Friday Harbor, Washington

We have had some interesting correspondence with Thos. E. Murray, Route 1, Box 25, Friday Harbor, Wash. Friday Harbor is on the east coast of San Juan Island (San Juan Co.) which is the largest of the San Juan Islands of northwestern Washington. In answer to our inquiry how his city got its name, Mr. Murray replied:

"As to how this town got its name. There are several stories about this, but which one is true I don't know. However I'll give you the one that seems to be most favored by oldtimers. It seems that when this section of the coast was being mapped and the various bays, islands, and so forth were being named, local names were used whereever possible. One day the survey boat came up the bay on which our town is located and seeing a man on shore they called out "What bay is this?" The chap, thinking they had asked what day it was called back, "Friday". So-o-, according to a lot of the oldtimers that's how our town got its name. It could be true."

From a beach one mile south and a little east of Friday Harbor, we have a sample of sand that was sent us by Mr.

Murray. It is a very coarse dark gray sand, consisting chiefly of quartz (clear, smoky, milky, with same brown and red jaspers), gray basalt, gray limestone, some green epidote and black magnetite with a few sea shells (white, brown, etc.).

Gold Sand from Keefer's Bar, Alaska

"Mailing you a sample of black sand concentrates from Keefer's Bar, on the Nushagak River, 32 miles above Dillingham, Alaska. If your patience holds out you will find a few fine colors of gold in it, and a number of other things that appear interesting."—from letter, dated June 15, 1953, from Frank H. Waskey who formerly lived in Dillingham but who now resides in Olney, Md. (Box 163).

This is a medium grained black sand consisting almost entirely of black lustrous magnetite with minor amounts of green gemmy epidote, pink to red gemmy garnet, colorless and smoky quartz, and some yellow gold.

Lake Sand from Lake Timiskaming, Canada

A letter dated June 18, 1953, comes from Claude H. Smith, Box 291, Geneva, N. Y. It reads:

"This spring my wife and I made a week's trip through Canada, so I kept my eyes peeled for some sand for you. On the road between Cobalt and Kirkland Lake, Ontario, Canada, are two small towns. The sand was collected at the mouth of Dixon Creek where it flows into Lake Timiskaming between New Liskeard and Haileybury, Ontario, Canada.

"It might be a new place. The sample is sent under separate cover. Should any of your readers like a sample I have about 3 pounds and will be glad to share it with them with my compliments."

This is a coarse dark gray sand. It consists of quartz (colorless, brownish, red), pink feldspar, with some colorless muscovite, dull black ilmenite, black magnetite and gray limestone.

Beach Sand from Gibraltar

Gibraltar is an English possession on the Mediterranean Sea. From the beach at Gibraltar we have a sand sample that was sent us by Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland.

It is a gray coarse sand consisting almost entirely of quartz (coloress smoky, white, brownish) with small traces of black magnetite, silvery muscovite, and sea shells (white, pink). "Beach sand from the Rock of Gibraltar"—on label.

Rock Crystal Sand from Guatemala

Francis M. Hueber, 1603 Central #115, Indianapolis 4, Ind., has made several trips to Guatemala where he collected a number of minerals, sands, etc. One of the samples collected was an interesting rock crystal sand which comes from the base of Los Riscos de Momostenango at Momostenango (western part of the country). A sand sample from the locality whose English translation means "Place of the Ghosts" was sent us by Mr. Hueber.

The sample is a gray coarse sand consisting chiefly of quartz (mostly colorless rock crystals—some showing crystal faces—also milky and smoky), and bronzy mica (flakes, also nice crystals), with a little black magnetite.

Beach Sand from Nua, Samoa

Nua is a small village on the west coast of Tutuila Island, Samoa Islands. The Samoas are a group of islands in the South Pacific and Tutuila is an American possession. From the beach at Nua we have a sand sample that was sent us by Max Haleck, Pago Pago, Tutuila, American Samoa.

This is a coarse brownish sand consisting chiefly of gemmy brownish olivine with white to brown sea shells, some black magnetite. The olivine varies from pale brown to almost black (dark brown).

Garnet Sand from Wormit, Scotland

From a sand and gravel pit near Wormit, Fife, Scotland, we have a sand sample that was sent in by Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland. This is a coarse grained dark

reddish brown sand consisting chiefly of pale pink gemmy garnet, quartz (colorless, smoky), red hematite, black magnetite, and silvery muscovite.

Beach Sand from Trabzon, Turkey

Trabzon is a city in northeastern Turkey and on the Black Sea. From the beach at Trabzon we have a sand sample that was sent us by Glen E. Kiser, Douglass, Kans. The sample is a coarse dark gray-black sand. It consists of olivine (light green and gemmy to dark green and almost opaque), dull black ilmenite, and quartz (colorless, smoky), also a tiny amount of lustrous black magnetite.

Beach Sand from Dueodde, Denmark

Bornholm, the 4th largest island of Denmark, is in the Baltic Sea, 92 miles east of Zealand or Sjaelland (the largest and most important island), and 22 miles from the southern extremity of Sweden. It is 24 miles long and 18 wide and has an area of 225 sq. miles. The surface is mountainous and the coasts rocky and dangerous to navigation. From Dueodde, the extreme southern point of Bornholm, we have a sand sample that was collected for us from the beach by Gerhard Koppen, Skanegatan 3, Nybro, Sweden.

The sample is a fine grained dark gray sand. It is almost all colorless quartz; small traces of green epidote and red garnet also present.

Microcline Sand from Stockholm, Sweden

This is a dark red coarse sand. It consists chiefly of reddish microcline (some grayish also present) with some quartz (colorless, smoky), silvery muscovite, blackish biotite and dark gray (almost black) labradorite, also a tiny amount of black magnetite. The sand grains show little if any rounding which indicate they have not traveled far. Collected from 15-20 M. (49-65 ft.) under Stockholm by Mrs. W. Hasselgren, Reginsvagen 6, Bromma, Sweden. In her letter, dated Aug. 8, 1953, Mrs. Hasselgren writes:

"We are extending the underground railway (in Stockholm) so there is a great deal of digging going on. There is a several mile long ridge of gravel on which part of Stockholm is built. They can't make tunnels in this gravel so it has to be dug out. I went down to where they were digging and took this sample—just for fun."

Manganese Sand from Tushar Mts., Utah

Under World News on Mineral Occurrences, in this issue, is an item for Utah on a new find of quartz xls in an old gold mine in the Tushar Mts., Piute Co. The find was reported by Dr. A. L. Inglesby, Torrey, Utah. The xls were found in a cave the bottom of which contained a deposit of manganese sand of which a sample was sent us by Dr. Inglesby.

This is a coarse brownish-black sand consisting chiefly of brownish-black wad (earthy manganese) and tiny slender quartz xls (many of which are doubly terminated).

Thoroughly Satisfied!

Editor R & M:

Just a note to say that I was thoroughly satisfied with each issue of R & M received in the past year. I was especially glad to see the addition of a fossil department and also the improved cover. Keep up the good work.

William Rouslin
21 Eames St.
Providence, R. I.

Dec. 5, 1953

A Pleasure of Life!

Editor R & M:

One of the pleasures of life is to renew my subscription to ROCKS AND MINERALS. It is a friendly informative journal.

N. J. Busby
P. O. Box 77
Melrose Highlands 77, Mass.

Oct. 20, 1953

L. H. BAUER DIES

Just as ROCKS AND MINERALS was going to press, word reached us of the death of Lawson H. Bauer, chief chemist and mineralogist of the New Jersey Zinc Co. Mr. Bauer died Jan. 27, 1954, in the Franklin Hospital, Franklin, N. J. He was 65 years old.

THE MICRO-MOUNTER

Conducted by LEO NEAL YEDLIN

129 Englewood Drive, New Haven, Conn.

The New York Mineralogical Club opened its 1953 - 1954 season with a symposium on the members' collecting during the summer. Everyone who told of his experiences brought choice specimens for display (and distribution), and since we could not show our own results adequately, we'll tell you about them here.

A very busy summer permitted only one foray into the realm of rock, and this was a short trip to the re-opened Strickland Quarry, Collins Hill, Portland, Conn.

The operators have the pit emptied of its water (and what a pit!), and are following a seam downward in search of mica and beryl. Everything else is thrown on the dump, and is so accessible that a car may be driven right up to it. For the most part it is pure white albite with great masses of black tourmaline showing everywhere. The albite is primarily the platy cleavelandite and it is in this material that our efforts proved most productive. We made no attempt to high-grade for m/m minerals at the quarry, but bearing in mind the prediction of a long cold winter, we stockpiled a few large masses for leisurely examination. This was our technique. We smashed large pieces in a cotton feed bag, and carefully poured every fragment into boxes for study under the 'scope. The results were astounding! And we're not nearly done yet. A large peach basket reposes under the table, and Helen's rock garden is loaded. (For the time being, anyway.) Descriptions of the best of the m/ms made to date follow:

ALBITE — A transparent colorless triclinic xl, showing one termination and resting on a xl of pale pink lepidolite. The faces are smooth and brilliantly lustrous; the edges sharp. The xl is almost identical with the drawing on page 338, fig. 5 of Dana's System of Mineralogy, 6th ed. (7th ed., with silicates, not yet published.)

APATITE — Three were mounted. The first is a long prismatic xl, pale blue, showing fracturing and self-repair across the prism, similar to many tourmalines. The xl is curved and sits in a nest of white albite xls, formed in one of the interstices of the platy albite matrix. The forms shown are the prism, pyramid and base. The albite is similar to figure 4, Dana's 6th, above.

Specimen 2 is a clear blue xl, embedded in a plate of albite. Four faces of the prism are exposed with somewhat more than half the basal pinacoid showing at each end. Associated are a fair smoky quartz xl and some secondary albite.

The third specimen is completely different. Whereas the first two occur directly in and on the primary albite, are blue in color, and have a dominant prism, this apatite is purple, and nestles in a cavity of secondary albite with long thin quartz xls scattered thru-out. The apatite is stubby in form with the C face dominant. Seen are narrow 1st and 2nd order prisms and thin edges of corresponding pyramids. This apatite has apparently formed latest for included in it are several minute xls of albite.

BERTRANDITE — In a vug in albite, associated with black tourmaline and a tarnished pyrite, is a mass of flat tabular orthorhombic xls. They are transparent, colorless and highly lustrous. They taper sharply to a point at one end, altho some are cut off to form a blunt tip.

COLUMBITE — Two specimens. The first is an elongated black shiny single xl, emerging from an albite mass. It seems to be the simple ideal orthorhombic form, with a long vertical axis and two

horizontal axes at right angles to the vertical and to each other. The effect is of an almost square prism, with the basal pinacoid as termination. Barely visible on this C face are truncations, very shallow, perhaps the k face shown in Dana's 7th ed., Vol. 1, page 781, the figure of a xl from Middletown, Conn., obviously the same locality, for Portland is just across the river from Middletown.

The second m/m is typical of columbite. More complex than the first this one shows the usual blue tarnish, high lustre, and varied form. Recognizable are the a, m and b faces and the basal pinacoid. A number of pyramidal facets are not easily identified without a goniometer. (No fair.) The xl, with some omissions, looks very much like the drawing noted in Dana's 7th. above. This is in albite, but the whiteness of the feldspar is marred by the brown stain from the columbite.

COOKEITE — Beautiful yellow velvetlike masses of this mineral line albite vugs. Probably a product of lepidolite or tourmaline breakdown. The cookeite occurs in tiny rounded groups, and where these aggregates have been disturbed typical mica cleavage is evident, with a pearly lustre.

FLUORITE — We made a haul with this one. Nine mounts were made. However, only three are here listed, describing only those with dissimilar characteristics.

1. A remarkable group in albite. The form is the cube, dodecahedron and tetrahexahedron. The xls are clear, except for puple cubic phantoms, visible in every one. However, there is zonal coloration, purple, on the outside surfaces, but only on the dodecahedral faces. This fluorite occurs not in the platy cleavelandite but in a cavity in the massive material.

2. In a large mass of sugary albite occur some agregates of cubic pyrite xls and quite the most perfect octahedrons of fluorite we've ever found. They show, in addition, the cube face, and all edges are sharp and unbroken. The surfaces are satinlike in appearance and are deep purple. Five of these were mounted.

3. A mass of albite is full of pits and interstices. Within these are several purple fluorites, dodecahedrons, with the cube showing as a tiny square face on some of the xls. In addition, nestled under a group of albites is a dark purple fluorite octahedron, the only one in a group of 21 dodecahedrons. There are 2 pyrites nearby, exhibiting the cube, octahedron and dodecahedron.

MICROLITE — Two good specimens. One is dark brown, greasy, and seems to be hemimorphic. This may be due, however, to the fact that the crystal has grown against a feldspar plate, and what appears to be a base is in fact a contact surface. The second shows several oily green xls scattered thruout the albite. Transparent. Forms are o(111) and d(110).

PYRITE — In addition to those mentioned in combination with other minerals described herein a number of fine pyrites were collected. We have made mounts that show the following forms and combinations: cube; cube and octahedron; octahedron and pyritohedron; cube and pyritohedron; and pyritohedron alone. One mount displays an aggregate of blue tarnished xls, so massed as to form a perfect V on the feldspar. This, of course, is significant of nothing. But it might indicate a victory for the m/m collector. Some of the pyrites are brassy; some tarnished a deep blue. All have fine form and seem to be abundant.

QUARTZ — This mineral, in good doubly terminated xls, (see albite, specimen 3, above.) is common. One mount is noteworthy. It is a group of clear terminated xls, formed in a nest of fibrous blue tourmaline, and contains much of the hair as inclusions. One of the quartz prisms is so compounded that its termination, made up of an aggregate of rhombs, is at right angles to the prism, and appears to be a C face, which it

isn't. The best quartz for m/ms is found in the yellowish albite-cookeite masses. This material abounds on the dump, and is in contrast to the snowy albite and pink traces of lepidolite.

TOURMALINE — A plethora of good material. In addition to individual terminated xls a careful examination of the rock at the contact between large masses of tourmaline and albite shows some unusual things. Black and green stout xls, fibrous and acicular types, combinations of these and others are common. Years ago blue, pink, green and bi-colored, or "watermelon" specimens were not rare. We could find no trace of the pink and "watermelon" types. Herewith are descriptions of some of our new mounts:

1. A group of transparent pale green xls, terminated, all in parallel position in albite. About 16 xls make up this assemblage. They are joined at the base and radiate to individual members. A small doubly terminated xl lies independent of the cluster. The form is the usual triangular prism, with rhombohedral termination.

2. A remarkable single green xl popped out of matrix, and was recovered intact. It is a gemmy green lustrous prism, terminated at one end. At the other it suddenly changes character. It ends abruptly as a single member and sends out thousands of blue fibres, the whole thing looking like a comet with its long tail streaming behind. The termination at the other end seems to be starting the same, but the fibres are barely visible.

3. A flattened green xl, exposed when lifting a plate of albite, seems almost 2 dimensional, except for its point. Here it has thickened, for a cavity behind it has afforded opportunity to grow.

4. Connecting the walls of one of the interstices in albite are a number of hairlike clusters. Except for 2 or 3 large xls in the vug the tourmalines grow at random, joining the platy albite seemingly from all directions. However, closer examination discloses that not all of the hairs lie in haphazard form, but cross each other at 60 degree angles.

5. Ever been in a limestone cave? Ever seen stalactites hanging from the ceiling and joining the stalagmites rising from the floor? Ever seen hundreds of them together? Well, one tourmaline mount we have seems to have been formed from a breakdown of a single large xl. An open cavity shows hundreds of spearlike needle xls, blue, all in parallel, arising from a base of secondary albite. And many of these needles have speared and are supporting tiny perfect albite xls.A cluster of brassy pyrite cubes completes this mount.

6. Seated on a plate of cleavelandite, completly visible, are 1 green and 1 colorless xl. The green is long, curved and translucent. At right angles to it is the other xl, transparent, colorless, variety achroite. Whereas all the other tourmalines collected on this trip show the standard pyramidal termination, the achroite exhibits a basal pinacoid, and no other. This clear xl is in contact with a stubby prismatic one of lepidolite. And while this lepidolite has its cleavage at right angles to what seems the prism, this prism is striated vertically, like tourmaline. The proposition, then, is this: "Was the lepidolite altered from a previous tourmaline xl? And if so, why wasn't the achroite so affected?"

FLUORITE (again) — One specimen, the form of which was completely puzzling, seems to have no relation, to the isometric system. It occurs in the platy albite, in a sharply angled cavity, and the angles of the faces bear no relation to the cube, octahedron or any standard fluorite form. It was only after much study that we realized that the fluorite was no xl at all, but a complete filling of the albite cavity. So now we have a new one — Fluorite, pseudomorphic after a hole!

MINERAL SHOPPER'S GUIDE

Conducted by CHARLES A. THOMAS
706 Church Street, Royersford, Pa.

Advertisers are invited to send notes or samples of their products. This service is free.

By this time, we have probably read all of our Christmas books and have settled into the groove by breaking as many 1954 resolutions as possible. We still need to clean up our diamond saw, desludge it. And what to do with those specimens in the cellar that have mysteriously accumulated during the past year? We shall have to build a museum in the backyard.

Speaking of museums, Lancaster, Pennsylvania, now has its new North Museum going full-swing. Never before have we seen so many people in one museum as we did on October 11, the opening of this fine modern museum. Quite naturally our attention centered on the earth science departments which were beautifully displayed and the fluorescence room, equipped with modern long and short wave lamps is large and filled cases of minerals and fluorescent substances demand more than casual attention. It is gratifying to know that the people of Lancaster, who put so much real effort into the building of such a fine museum, were so minded in the first place. The result is magnificent!

Ever hear of fluorescent amethyst? We have one from Paterson, N. J., which reacts almost as strongly in subdued orange as some sphalerite.

We can use a few short notes similar to the above sentence and pertaining to the unusual about minerals. Something that has not been in print before is preferred.

Micromounters would do well to look into some of the opal dealers' ads in Rocks and Minerals Magazine and send for a packet of the tiny bits of colorful opal offered at low prices. Some tiny bits of the so-called black opal and white, too, are so danged pretty under a good spot of light on a good 'scope. We are personally nuts (to be sure) about color in micros, especially radiant color such as is seen on opal, iridescent limonite, marcasite, pyrite, apophyllite and others. We have some bangup pieces of iridescent Franklinite (a John Albanese mineral) that is superb under the lens.

Wilfred C. Eyles and Associated Miners are two dealers who can ship any type of opal as well as the tiny too-good-to throw-away pieces which no opal miner in his right mind would disregard.

It is not exactly necessary to carry eyeglass insurance. More than a few firms sell Safety Glasses or Goggles with Safety Glass made to your prescription. We use safety prescription type ourselves to save eyes and to keep our dress spectacles from getting nicked . . . in the field or while working with stones at home. For those who do not like to wear any type of glasses, we recommend the Monogoggle, a plastic face shield with vision through a wide and roomy apron of clear plastic. This department can help you with your eye safety problems. Write us.

One man we know has yet to hit his left thumb with his Estwing hammer. He hasn't any left thumb. Castiron thumb guards are still a myth.

Millions of tiny flakes of fossil shell can be seen in the sands of the cliffs of the famous fossil-bearing Calvert Cliffs, Maryland (on the Chesapeake). Nearly all of the flakes show a play of color reminding one of the most colorful of opal.

Speaking of such color reminds us of a few brown and lavender fluorites which came out of our tumbling machine and which showed stress areas or imbedded fractures with a most brilliant play of color under the surface. Some Durango apatites show a similar play which does not exactly ruin the value of the crystal. Pretty.

The place name of Flint Ridge (Ohio) has been mentioned many times in Rocks and Minerals Magazine. Those who live near this famous patterned flint locality have time to select good material for cutting. A casual and usually hurried visit will produce 'flint', but only good luck will produce the better material. See the ads placed by Foster Fraleigh and R. J. Burick in back issues for this nice cutting material. It should be good!

We can die after polishing, die before polishing, dye after polishing and dye before polishing. Take your choice . . . if you must dye. The results are most interesting and who has not a few pieces to try?

Imagine, a pound of those brilliant Mexican (Durango) apatites for only $4.00. J. C. Filer and Son can supply you. Get address from their ad. Some perfect crystals may be mounted with a gold or silver capping with a ring, to be used as a pendant. We have an old gold tooth cap which fits one perfectly. Ugh. Our dentist says he will fit one up for free if we give him a crystal for a ditte.

Why bust up that old record? We would like to bust many that are played too much. They say that silicon carbide and other lap grits and flour will stay in the groove . . . without the downbeat. Drill the arbor hole slightly off center.

Radioactive rocks and minerals are becoming very popular. Seeking your own specimens is fun with the proper electronic gadgets and testing suspected material at home with photo plates or with the ever popular Alpha Counter is very gratifying. The East Calhoun Mine, near Central City, Colorado, an old locality for pitchblende is still producing good black and heavy material. F. A. Rohrman of 1333 Cascade Ave., Boulder, Colorado, is prepared to ship excellent showings of the black-as-coal type pitchblende. See data in F. A. Rohrman's ad in this issue. Our own Alpha Counter sparkles plenty with this hot stuff which was sent us for first hand examination.

We have seen rock that bends, rock that flies apart in water, rock that burns, rocks that light up on gentle heating or scratching in the dark, fluorescent rocks, sweet and bitter rocks, smelly ones and some that smell good, and many other rocks with unusual characteristics. We have walked upon singing sands and listened to the winds hitting high C on hot, dry sand bars. There is a zinc oxide ore found at Friedensville, Pa., which sings its heart out when placed in a thin tumbler of water. A large piece plunked into a bucket of water can be heard from over fifty feet away.

If you want to have a selenite for your rock shelf that has real appeal, send to your dealer for a Desert Rose Selenite from Miles, Texas. If you are a dealer, get in touch with The Desert Rose, Miles, Texas. We saw one of these beauties this past summer and recommend them highly for their clean and glamour-like appeal.

The W. H. Hayes article on the Cohansey quartzite deposits and Indian artifact localites of New Jersey is very interesting. We read it twice and can't help recalling our own exploration of the bog region of South Jersey, many years ago. Where the quartzite hid itself, then, is a mystery. But we do remember the attractive pebbles seen in the crystal-clear waters of the Bread and Cheese Run near Fishers Dam, not too far into the woods and to the southeast of Red Lion,Pa. The backwoods trails are navigable by auto but they are generally unmarked . . . and all look alike. Although we were only two or three miles from the main highway, it took us two hours to find our way out. Wish we had some of those pebbles now.

Fine museum displays of Brazilian gem materials and specimens are really something to behold. It is not necessary for us to see samples of Inter-Ocean Trade Company's stock to know that it is good material. This firm is reliable and deals in fine Brazilian material.

We took another look-see at one of our favorite copper-zinc-lead localities some Sundays ago. When we arrived, we noted a pale blue sedan parked in the area. A large pick and a bag of loot, leaned against a rear wheel a single occupant was resting in the front seat. We asked him for his hunting license but he denied that he had been hunting. We mentioned the huge sack of minerals (with straight face and eyebrows up to here) and what about it . . . mineral hunting huh? As soon as we introduced ourselves, everything was on even keel again. It was Charles W. Smith of Baltimore who had come with Mr. Desautels, Mr. Levey, Mr. Riley and a young collector whose name escapes us at the moment. Some excellent yellow tabular wulfenites were found and the younger collector found a very excellent showing of linarite. We should say that the specimens were all very fine micros. Larger micro specimens of pseudomorphic quartz and glistening brown sphalerite were also part of the loot. The locality? The Ecton Mine, of course, near Audubon, Pa.

Need any special crystals for your nippermounts? Hugh A. Ford has a small but attractive list of clean crystals from all over the world and they are priced right. Look up his special ad in the September-October issue. For instance, a Cerussite crystal ¾" for $1.25 or a perfect Peridot, nearly an inch for $17.50 Interesting?

What in the world is Corkite? Send amounts from 25 cents to $3.00 to Minerals Uulimited and find out. If you like color in your collection this is it.

Thanks to those who think we know it all and ask us to identify minerals. We get stuck plenty. The most recent baffler is in the form of flattened black masses up to three inches in the largest ovoid diameter and about ¼" to ½" thick. The refractometer indicates quartz as well as the Cargille Heavy Liquids test. A polished cabochon shows silvery spangles (mica) such as is found in the reddish sunstone and the greenish aventurine. The solution to this identification may be simple, which proves something or other-mostly that we were home with the German Measles when our third grade school class had this to study. Yes, other basantitic masses were observed in the debris. The material was found in large quartz (sandstone) boulders after an earth moving—road building project brought them to light at King of Prussia, Pa. Mrs. Belz, of Lansdale, please note . . . another Pennsylvania semi-precious gem material? Mrs. Belz is assembling what may prove to be the most complete array of Pennsylvania 'Gemstones' for the benefit of any and all collectors interested in such a collection. Anyone who has an extra piece of rough or finished 'Gemstone' from this state should send the duplicate to Mrs. Gene Belz, Quarry Garden Farm, Line Road, Landsdale, Pa. We are sending, among other things, a cabochon of yellow jasper, which at first glance looks like golden Tiger eye. Only a very few pounds of this interesting jasper occurs in the under water bed of the French Creek opposite Coventryville (Rt. 23). Chester County, Pa. A lucky collector may find another pound or two in the clear but

deeper water of the stream. One solitary Chinese red jasper mass was also found in the same stretch of water. Hundreds of tiny white globules prevent the ultimate polish in the red jasper.

Dealers: if you receive a shipment of unusually good material, whatever it may be, self-help yourself to the free service of this department (The Mineral Shopper's Guide). It is not always necessary to send items but, believe us, it is the best way. We will be your seeing eye link between you and the reader-customer. Mail order buying can be good and we intend to help you prove it. Readers: if you can't get it, contact us . . . we just may know the best and the quickest place to get it. If we can't, we will say so.

About a year ago, an oldtimer dealer wrote us and complained that we did not ever once mention his well-known establishment. His ad called attention to many items of all kinds . . polishing, fluorescents, crystallized specimens, rare items for the advanced collector and standbys for the beginner as well as tons of other materials for the general collector. Back and forth letter writing disclosed that he had some superb fluorescent material not generally seen on collectors' shelves. A sample specimen arrived eventually and from this brilliantly fluorescent piece we were able to write up an authoritive mention in this department. We had never seen the material before and its color under long wave lamps was superb. A demand was created and everyone, including the buying collector, was happy.

We cut and polished a piece of Eden Valley petrified wood, not long ago. This Wyoming material takes a beautiful polish, several samples of which arrived from Pearl and Karl Johnson, of Jackson's Hole, Wyoming, (orders gladly filled, says Karl). While wiping on a final polish, we were thinking of the beauty of the Tetons and the general scenery around this wonderful part of Wyoming which we will never forget. Something happened to the water drip system and the stone burned. Close scrutiny disclosed a spiderlike body with legs radiating from the 'insect' on the surface of the otherwise highly polished stone. We put that stone away for future attention and polished another piece of Eden Valley wood without mishap. Later we got to looking over our mistake-cabs and came across that piece of jet-black wood. We filled the 'spider' with glass-size (a clear varnish) and waited for it to become tacky, then pressed it onto a small film of 23 carat goldleaf. If anything would look well on Sax Romer's Fu Manchu, this is it.

Gilding the lily is oft frowned upon, but art license has a wide range. A sand-blasting unit comes in handy for arty experimentation. Solid colors in opaque cabs and polished flats lend themselves admirably to sand-blasting experimentation. A desk paper-weight, for instance, with the boss's name incised, may not be far wrong. Or a set of initials, flowers, birds, Chinese characters, or whatever on appropriate surfaces can be very interesting. An etching tool with a vibrating diamond point may also be used, though sand-blasting makes much sharper outlines which may be filled with goldleaf, gold powder, copper powder, silver amalgum or left just plain. It takes but a minute to 'sand-blast' with silicon carbide grit. We like to use 100 grit size . . . about ten ounces to the 'shot'.

O. K., Mr. Lenker, we will refrain from mentioning that easy to polish mineral with the beautiful markings and high luster which is often found at the Kibblehouse Quarry, Perkiomenville, Pa. We have found some more interesting types, also with a resulting high luster and interestingly patterned. Spelled backwards it reads: Etilortan. Mr. Lenker teaches an extra-curricular subject in a suburban Philadelphia high school . . . namely, lapidary and jewelry work.

Supersonic waves have been harnessed into a cleaning unit and used in industry to thorougly clean intricate metal shapes of grease and metal dust. The unit is expensive and may be hazardous to an unskilled workman. It is not recommended for home use, although we have been thinking about its possibilities for cleaning certain specimens . . . such as that sticky mud from those Maryland fishtail selenites. Hmmmmm. Of course, anything may be used with safety . . . except safety pins.

And now we hear and read about an electronic device called the Cavitron. What an age in which we live! This gadget, not yet universally used, has drilled holes in diamonds and any brittle substance such as tool-steel and any kind of gem. We should not use the word 'drilled' for this process uses supervibrations . . . can carve quartz minerals and the corundums with ease and uses soft 'dies' such as mild steel and brass in any design imaginable, including the cameo. We are on the trail of more imformation.

Many moons ago, we received some extra lovely azurites and other beautiful copper specimens from Dave Record, owner of the Mission Curio Mart, Tucson, Arizona. Those who have not been to his shop for a couple of years should see it now. We got it straight from the petrified grapevine that there are beautiful specimens all over the place. Like all alert dealers, Dave saves all crumbs and bits from trimmings for the micromounter, and what stuff!

Hats off and three loud cheers to Lafayette College, Easton, Pennsylvania, and to Dr. Dyson, Dr. Montgomery (our own Arthur, of Rocks and Minerals Magazine articles), Mr. Bertrand and Mr. Platt for their extra effort in playing host to the Mineralogical Society of Penna. Visitors to Markel Hall viewed part of the John Pohl collection and many other

fine mineral specimens. It is a tossup as to who had the most enjoyment, the host or the visitors. Mrs. Bertrand, too, deserves a great deal of credit for her part in the preparation for the enjoyment of so many collectors.

A letter has been received from Leslie E. Mihm, 603 Anneslie Road, Baltimore 12, Md. It reads: "I have a source of supply of flint ballast originating in England, from Baltimore Harbor, opposite Fort McHenry, the site of our National Anthem, the Star Spangled Banner, and the theory is that it is ballast from the British warships which besieged and bombarded Fort McHenry in the Battle of Baltimore in the War of 1812, some of which were undoubtedly sunk and the ballast spilled into the harbor. Recent dredging operations for deepening the channel have brought this material to light.

"I am offering to include - free - with a sample order of $5.00 worth of eastern gem materials and specimens (see advertisement in this issue—Ed. Note), a sample of this flint ballast material, for coloring purposes, or for immediate use, if it possesses sufficient native color. I am also offering it for sale at the nominal cost of $1.00 a pound."

NOVICE COLUMN

In the Sept-Oct 1953 R&M, Gordon ViGario, 2231 Pine St., Bakersfield, Calif. suggested that a Novice Column be opened for rank beginners in mineral collecting. These amateurs, who do not know one mineral from another, may submit their names to the Novice Column.

It is our hope that collectors having duplicates may donate a few specimens to one or more novices who are expected to acknowledge receipt of specimens received and to reimburse each sender for postage paid on the packages. Please print or write plainly the names and localities of all specimens sent novices, and if 2 or more minerals appear on the same specimen, identify each. Remember the novices do not know one mineral from another, so please be as helpful as you can.

The following is the second list of novice collectors.

Peter Hollup, Box 113, Smoky Lake, Alberta, Canada.

Mr. and Mrs. F. R. Brunner, 410-1st Ave., Haddon Heights, N. J.

Jeff Marshall, 114 Claremont Place, Cranford, N. J.

Lawrence Bloom, 884 E. 13th St., Brooklyn 30, N. Y.

Mrs. Edward W. Shaughnessy, 30 Maple Rd., Baldwinsville, N. Y.

Lt. William J. Robertson, 3555th USAF Hospital, Perrin AFB, Texas.

Robert Donley, Box 191, Cornwall, Pa. (10 yrs. old).

Denver Drake, 4473 Ellman Ave., Blue Ash, Ohio.

Walter J. Hillman, 819 E. Cornwall St., Philadelphia 34, Pa.

Earl F. Coffin, 1031 S. W. 1st St., Miami 36, Fla.

Donna Cregan, 124 Mathewson St., Jewett City, Conn. (12 yrs. old).

Leo A. Miller, Blossvale, N. Y.

Bruce Hunt, 49 Boyce Place, Ridgewood, N. J.

Homer Wilkie, Suite 206, American Trust Bldg., Richmond, Calif.

C. M. Boyce, 12 Alvey St., Schenectady 4, N. Y.

Arnold Mantyla, 419 So. 39th St., San Diego 13, Calif.

Mrs. Loretta Bohn, R 3, Box 396, Waukegan, Ill.

R. E. Barrett, 938-2nd St., Muskegon, Mich.

Mrs. Mabel Darrah, Box 33, Cadyville, N. Y.

Jerry Lamar Smith, 411 N. 16th St., Springfield, Ore. (15 yrs. old).

Time To Renew!

Editor R & M:

Another year has rolled around, and time to renew my subscription to ROCKS AND MINERALS. Am enclosing a bank draft for $3.00, for another year. Enjoy each and every issue of the magazine, and more power to you.

John W. Tobola
310 Seventh St.
Calumet, Michigan

Oct. 30, 1953

THE AMATEUR LAPIDARY

Conducted by COMMANDER JOHN SINKANKAS
Certified Gemologist, American Gem Society
1107 S. Oakcrest Road, Arlington, Va.
Amateur and professional lapidaries are cordially invited to submit contributions and so make this department of interest to all.

THE TREATMENT OF RHODONITE

Generally pale to bright pink in color, rhodonite is a silicate of manganese and is rather widespread in occurrence. Aside from its color, its outsanding characteristic is its fine-grained structure which while endowing it with a high degree of toughness also makes it troublesome to polish. Some rhodonites such as those from Franklin, N. J., are coarsely-granular and seldom considered suitable for lapidary work, their chief claim to fame being their outstanding crystallizations. Rhodonite is only about 6 in the Mohs scale of hardness but the lack of hardness is more than compensated for by its exceptional toughness. In this respect it is similar to jade and susceptible to the same sort of lapidary techniques.

Almost all rhodonite is infiltrated with black veinlets of manganese oxides. In small narrow streaks these add much interest to the finished cabochons, but if lengthy and containing soft or poorly cemented oxides may cause the piece to fall apart during work. A close examination of typical material will show that such inclusions appear to be alteration products which start along numerous fine cracks and then, depending on how long the process continues, change into soft oxides of an earthy nature. The quality of the black-colored material can be roughly judged by the tongue-wetting test;—if the black part absorbs the water quickly and resumes its former dull luster almost immediately, the material is very soft and will not either hold together or take a polish;—on the other hand, if the area remains wet, it shows a low degree of porosity and the chances are that deterioration is too slight to be bothersome.

Much rhodonite is found in large nodular chunks as in Southern California; the outside is often completely black and not at all indicative of the beauty hidden within. On these pieces, only the core may be sound enough to be useful. It is almost always necessary to slab through the center and then examine the chunks to see whether complete slabbing is going to prove worthwhile. All rhodonite slabs should be promptly cleaned of saw-oil by washing in a hot detergent solution. Without this treatment the oil soon penetrates the slab and cause trouble later.

All slabs should be tested for soft oxide spots by twisting in the fingers to see if they will break with moderate strain. Do not be reluctant to apply this destructive test since it is far better for breakage to occur here than later in a partly-finished cab. All outlines must be carefully inscribed on rhodonite slabs since as a material it is repellant to aluminum marks and causes them to disappear quickly if rubbed.

The shaping of rhodonite proceeds without undue difficulty but occasionally softer areas are met with which grind away much faster than neighboring material. The cure for this is to select only the soundest material of a uniform coloration and pattern. Grinding of larger pieces is inclined to be slow due to its compact nature but at the same time, this gives good control of shape if the cutter does not wax impatient. If otherwise feasible, all cabochons should be rather high with a good curvature to facilitate easy sanding and polishing. Flat, professional—looking cabs can be prepared but are considerably more difficult to do well.

The secret of a good polish in undercutters, rhodonite included, is the same as for woodworking — a good sanding job. Coarse sanding should be continued only so long as it takes to fair—in the contours, then stop immediately and switch to fine—sanding. Use wet-or-dry cloth of 400 grit for fine-sanding, employ it wet with a liberal spray of water. Finish sanding by using much water to reduce the cutting action to a bare minimum. This takes time but it does remove all the numbers of tiny hillocks which later turn under polishing into the well-known and thoroughly detested "lemon-peel" finish.

Polishing must be done on leather or wood, felt will simply not do at all unless a lemon-peel finish is acceptable. Leather is generally best for rhodonite and gives by far the most superior results when used in conjunction with Linde A. This agent is admittedly expensive but since a pinch is used at a time, a little goes a long way. The Linde A is kept in a whisky glass with a piece of cotton to dip it up with. Put in a generous pinch of Linde A and then add about a ½" of water, stir up this mixture with the cotton swab and apply to the buff when it dries out. Run the buff at very slow speed, about 3-400 RPM. Be careful of generating excess heat which might loosen the dopping cement. It the cement should strike the leather it will glaze the surface and greatly impede polishing action.

When correctly sanded and polished, rhodonite is capable of a finish scarcely less fine than that given to agate.

O. IVAN LEE

Stark Olan Ivan Lee was born on April 17, 1888 in Madison, Lake County, Ohio and departed this life on November 26, 1952.

His early life was spent in Brooklyn where he attended P.S. 2 and Manual Training High School. He attended Worcester (Mass.) Polytechnic Institute from 1907 through 1910 and received a Bachelor of Science degree in Chemistry from Brooklyn Polytechnic Institute in 1911. This was followed by post-graduate work in Chemistry at Columbia University in 1926 and a course in microscopy at the Bausch and Lomb Special School of Microscopy in 1929.

His thesis for the Bachelor's degree was on the Preparation of Selenium and Tellurium Dyes and was the second of over thirty-five published papers on chemistry, engineering, mineralogy and spectography. During 1926 and 1927 he wrote a series of Notes and News of Minerals of the Rarer Earths for ROCKS AND MINERALS. This series was followed in later years by many other interesting articles on minerals and mineral localities.

Among Mineralogists his best known work was probably the finding and isolation of the rare element Hafnium in the Cyrtolite from Bedford, New York, and the discovery of a new property of matter, the Reversible Photosensitivity of Hackmanite from Bancroft, Ontario. The findings of both of these works were presented to the scientific world in papers that were published in leading scientific journals.

Mr. Lee's life work took him into many fields of scientific endeavor, where he did theoretical, experimental and practical work in organic synthesis, pathological research, spectographic analysis, inorganic synthesis of compounds of rarer elements, and consultation on a great variety of chemical, engineering and mineralogical technical problems. His last work was as Chief Spectographer for the U. S. Testing Company of Hoboken, N. J.

Early in life Mr. Lee became interested in the collecting of minerals, a hobby which was to develop into one of the finest private collections of minerals in this country. This was really six separate collections. His first interest was in the minerals of the rarer metals and his collection of these minerals ranks with the finest known.

Next in importance might be his collection of radio-active and rare-earth minerals, started in his youth when he rode over the mountains of North Carolina on a bicycle which he carried with him on the trains from New York City.

He also accumulated a collection of Franklin, N. J., minerals which only lacked twenty-six specimens of being complete and a companion collection of Langban, Sweden, minerals which was even more complete. These collections were complemented by a cabinet of rare and beautiful specimens of almost all the known minerals, a fine display of fluorescent and phosphorescent minerals, a remarkable set of semi-precious and precious gem stones and over 1000 micro-mounts.

His library was most complete and contained many rare and unusual books on mineralogy and the lapidary arts, as well as many books on almost all branches of science.

Mr. Lee was an ardent stamp collector, an excellent amateur photographer and was well read in Egyptology and the South and Central

American early civilizations. He was known to his many friends and intimates as the walking encyclopedia. Mr. Lee attended the Baptist Church in Jersey City, N. J., where he made his home for the past thirty-five years. He was married in 1929 to Miss Mary Stewart. who shared his life and his love for the wonders and beauties of this world. He had a daughter, Virginia Lee, who resides in California.

Mr. Lee was a member of the New York Academy of Science, the New York Mineral Club, the New Jersey Mineral Society, the Newark Mineral Society, the Mineralogical Society of America and the Rocks and Minerals Association. He served as President, Vice-President and Secretary of the New York Mineral Club and Vice-President of the New Jersey Mineral Society.

It was the writer's good fortune to meet Mr. Lee on his first visit to the New York Mineral Club in 1942. This chance meeting grew into a warm friendship during which the writer learned to know Mr. Lee as a man of great personal modesty, quiet tastes and perfect courtesy, ever ready to share his knowledge and possessions with others, and ever striving to improve his knowledge of all the wonders of creation.

He will be remembered by all those who knew him as a Gentleman and a Scholar.

Philip R. Cosminsky,
509 Timber Lane,
Falls Church, Virginia.

JOHN NEWLIN TRAINER

(Obituary Notice)

John Newlin Trainer, founder of the Trainer Investment Council of New York City, died enroute to his home in Brewster, N. Y., from New York City, Thursday evening, Dec. 17, 1953. Although in failing health for many months, Mr. Trainer had gone to New York City that morning. He was stricken aboard a late afternoon train returning to Brewster.

Mr. Trainer was born April 8, 1876, in Trainer, Pa., a son of John Newlin and Hannah Booth Trainer. He was a member of the Harvard 1900 Club of New York City, the New York Mineralogical Club, and the Rocks and Minerals Association. Mr. Trainer was widely known in mineralogical circles due to his many articles on the minerals of Tilly Foster, N. Y., and on garnets.

Survivors include his wife, Mrs. Caroline Browning Trainer of Brewster; two sons, John Newlin Trainer, Jr., of Mount Kisco, N. Y. and Robert B. Trainer of Milwaukee, Wis.; a brother, S. Bancroft Trainer of Toronto, Canada; and eight grandchildren.

Memorial services were held in St. Andrew's Episcopal church of Brewster the following Tuesday morning at 11 o'clock. Interment took place in the Chester Rural Cemetery, Chester, Pa.

Paul Nolan Caravetta drowned at Jensen, Utah. July 17, 1953.

PAUL NOLAN CARAVETTA

(Obituary Notice)

Paul Nolan Caravetta, age 21, of Chicago, Ill., and a University of Wisconsin student Class of '54 was drowned at Jensen, Utah, on July 17. He was on a Field Trip with a group of Geology students from the University of Wisconsin when the accident happened. Paul had been actively interested in Geology and Paleontology for several years and was a Geology Major at the University of Wisconsin.

Paul was a nature lover and enjoyed it so much and never stopped learning about it. All his friends enjoyed so much to be with him. Anyone who knew him couldn't help liking Paul. He will always be in our memory.

Roy H. Grossmaan

FRED L. MILLS

(Obituary Notice)

Fred L. Mills, who was a subscriber of R & M for many years, and who resided at 108 N. Commerce St., Fort Worth 2, Texas, died on Sat., Aug. 15, 1953, after being bedfast for almost 7 months. He was 69 years of age.

A native of Georgia, Mr. Mills moved later to Mississippi where he was in the saw mill business. He moved to Fort Worth 48 years ago and was in the real estate loan business.

One of Mr. Mills' hobby, which he loved dearly, was the collecting of minerals and fossils. He would spend many weekends and vacations in pursuit of specimens to add to his collection.

He is survived by his wife, two sons, a daughter, and seven grandchildren.

FOSSIL DEPARTMENT

Conducted by A. ALLEN GRAFFHAM

Box 419, Ardmore, Oklahoma

It has been most gratifying to receive many fine letters from our readers in the past month. If I have been slow in answering, it has been due to a two weeks collecting trip which was followed shortly by our vacation to New Mexico and Arizona.

I received the following story on fossil collecting in Minnesota and hope it is as interesting to our readers as it was to me.

The Twin City Brick Pit
by
Don Wallace
1254 Edmund
St. Paul, Minn.

Collecting fossils in Minnesota has its limitations. Erosion and glaciation have removed the sedimentation of the past 350 million years and so mixed it in to the glacial till that it serves no purpose to a collector. However, the early chapters of the earth's history are remarkably well preserved and the Ordovician and Cambrian levels are happy hunting grounds indeed.

As I do most of my hunting out of St. Paul, the sedimentary rocks and shales of this area are more familiar to me than those in southern Minnesota. Probably the finest location in the state is the Twin City Brick Company shale pit located right here in the city.

This is an active clay-shale pit and has been for over 50 years. Millions of bricks have been made and are still to be made from this fine grey shale. As the pit is active, permission must be gained before entering. The office is at Water & Joy streets, right on the level of the Mississippi River. To reach the pit one does not decend but instead, must climb a 100 foot bank to the bottom of the pit. Above, the hunter will see a layer of grey shale 89 feet deep covered by 125 feet of sand and gravel overburden. There are approximately 10 acres of ledges and cliffs from which clay has been removed. This is the Decorah member of the Galena formation with the very top probably Prosser member. The bottom of the pit is solid Platteville limestone and from this to the level of the river it is St. Peter sandstone.

Fossils are to be found all through the Decorah with bryozoans in about 10 to 12 varieties. This was the age of bryozoa, and the Decorah at this location is most famous for the branching types. *Prasopora* are rare here but very plentiful in the same Decorah 50 miles south. This is also true of cup corals in the two locations. There is a thin band in the lower 10 feet of the Decorah in which *Stictoporella,* a bryozoa which grew in thin, flat, perforated sheets, like plasterers screen, is to be found.

Brachiopods are reasonably plentiful: *Zygospira* in the upper layers and *Rhynchotrema* through the entire Decorah. Other varieties in shorter supply are *Resserella, Pionodema, Dinorthis* and *Strophomena.* Pelecypods are rarely found and invariably in poor preservation. This is unfortunately true of the cephalopod group as well.

Perhaps the most interesting early life group is the so-called sponges, or long stemmed spongy plants which grew on the ocean bottom and contained enough mineral matter to be preserved. *Rauffella filosa* had a stem about as thick as the finger with fine, hair-like feelers growing from the side. These may have grown to a height of a foot or more although the average length of a preserved fragment is not over three inches. A very remarkable and grotesque fossil of this period is a close relative named *Rauffella*

palmipes. It was evidently much shorter than *R. filosa* and had from three to five curved tentacles which, when fossilized, curl up and look like a hand or bird claw. Another near relative can be found in the upper Decorah or Prosser and looks like a hornet's nest. This is a sponge member called *Receptaculites*.

Crinoid rings and short stem sections are in abundance but very few plates have been found. Trilobite tails for *Eomonarchus intermedius* may be seen in the few lime lenses. In the middle Decorah tails and checks from *Isotelus gigas* are preserved unreplaced. I have found one complete curled specimen and this is the only one known from this area. One tiny specimen of colony coral was found in this pit and that just about covers the fauna which can be found.

The pit is so large that one hardly knows where to start a hunt. If you have only a day to spend, take someone along who knows the area. I have spent over 2 years of spare time here and have seldom come away without something entirely new for my collection. If you can't get up this way I will always be interested in corresponding with interested collectors.

Fossils on Lake Champlain

I have on hand a very interesting letter from Harold C. Patch of Perkinsville, Vermont, in which he tells of some very fossiliferous outcrops of Ordovician age on the shores of Lake Champlain. A portion of his letter follows:

"Our camp was on a bluff about 25' above the lake, and from the beach there lay exposed, dipping slightly to the west, the edges of many feet of Ordovician limestone and calcareous shale formations which, according to all rules of the game, should contain Ordovician fossils.

"Although I was suffering accutely from the usual camper's appetite. I couldn't wait around while Samanthy was cooking a bountiful supper, but with bag on shoulder slid and scrambled down to the shore and began my first fossil hunt. My search was soon rewarded and the hammer and chisel got into action.

"I had to break off for supper, which left me in such condition that I found it much easier to scramble down the edge of the bluff than to clamber up it. I ranged the beach for something like a hundred yards, making new discoveries in different strata as I went along. Finally the gathering dusk called a halt to my activities but sunrise the next morning found me down there again, picking away with hammer and chisel. Doubtless I'm not the only rockhound who can't seem to stop as long as there is a empty cranny in the car which will hold another chunk of rock. At any rate I brought home a good many pounds of fossil-filled limestone and shale which I certainly have no place to store except in the barn.

"The bryozoan, *Prasopora,* was by far the most plentiful in my catch; some chunks of rock are practically made up of their colonies. Two or three species of brachiopods, fragments of a crinoid stem and some sort of twig-like, branching bryozoan make up the balance."

Preparation Aid

Alvar, which is a synthetic rosin, is an excellent preservative for invertebrate as well as vertebrate fossils. We have saved fragile crinoid crowns found in rotten shale by dropping a few drops of alvar on the shale to stabalize it. We do not coat the fossil, (this is never advisable), but use the alvar to strengthen the matrix. If, in the process, a drop of alvar gets on a fossil, it can be removed by gentle scraping with a very sharp tool.

Even Small Print Is Read!

Editor R & M:

It is a pleasure to send a check in renewal of the interesting magazine ROCKS AND MINERALS.

Like so many other rockhounds I look forward to receiving this fascinating publication every two months. You can be sure that I read it from cover to cover without missing even the small print.

I would like to add my vote in favor of the picturesque cover. Besides adding to the beauty of the cover, it is educational in the sense that it gives the subscriber a picture of an interesting mineral.

Here's to a bigger and better ROCKS AND MINERALS.

Louis Soland
1250 Morris Ave.
Oct. 6, 1953 Bronx 56, N. Y.

Club and Society Notes

Attention Secretaries—Please submit neat copies. Give dates and places of meetings. Check names for correct spelling.

East

SEMI-ANNUAL MEETING AT EASTON

On Sunday, November 15, 115 members and friends of the Mineralogical Society of Pennsylvania assembled at Easton, Penn., for the semi-annual meeting and Fieldtrip.

Despite the fact that snow had been threatening it turned out to be a beautiful day for collecting and good fellowship.

Spark plug of this activity was member John Bertrand who set up a beautiful exhibit of minerals to be found at the quarry. He collected this material a month before, doing very little digging so that the specimens represented what could actually be found today. He also acted as coordinator.

Through member Dr. Arthur Montgomery, associate professor of Geology at Lafayette College, permission was secured, from the C. K. Williams Co. Inc. of Easton, to collect on their property.

We parked our cars on the huge company parking lot next to the river and through the personal efforts of John Bertrand, safety on the busy highway was assured by the willing and efficient cooperation of the Police Department of Forks Township who supplied two friendly, uniformed policemen. These courteous officers remained on duty all through the collecting period.

Swapping proceeded at a fast rate and many rare specimens changed hands. Some of these were "one-of-a-kinds" from historic localities and some specimens of museum quality were from mines that never produced specimens in quantity.

Everyone from the youngest member to the eldest was swapping and even the children had fine material.

Members of the Mineralogical Society of Pennsylvania working the dumps along the Delaware River near Easton, Pa. *Photo by Harold Evans*

Many species were collected, among them the minerals rare in the area: zircon, thorianite. thorogummite, tourmaline and uranophane. Many good specimens of the more common minerals were also collected: precious serpentine, snow white tremolite XLS, tremolite partly altered to serpentine, phlogopite, muscovite, vermiculite variety eastonite, serpentine variety chrysotile, dolomite partly altered to serpentine, graphite, molybdenite, diopside, actinolite, asbestus and fibrous calcite.

About 2:30 the cars began to move out to John Markle Hall, the geology building of Lafayette College, where the meeting was to be held.

Before and after the meeting members viewed the beautiful collections which graced the hall. Among these was an old select Franklin collection presented to the college by Mr. Elwood Schuster, a mining engineer for the New Jersey Zinc Company at Franklin, N. J. This was in two sections, one of fine crystals and the other a breathtaking fluorescent collection.

Also on display was the superb collection left to the college, after his death, by the well known amateur, John C. Pohl Jr. Some of the best local pieces in the Pohl collection were given to him by various fellow collectors, among these, George Gehman, who discovered thorianite at Easton in 1914 and who was instrumental in getting the National Research Council to send a team of experts there from the Committee of Geologic Time. Eighty-four years young George Gehman was at the meeting and was collecting at the quarry as a guest of the society.

There was other radioactive material in the cabinets which were gathered to-gether by the Geology Department at Lafayette.

The exhibits, in the main were set up by the professors; each modestly giving credit to the others for the work.

Dr. Montgomery aided, by Lafayette student, Phil Platt and our own John Bertrand, lovingly placed the breathtaking specimens in the cases, lighting and labelling them. Dr. Dyson and Dr. Cabeen helped in various ways wherever they could.

The meeting was most ably presided over by our distinguished president, Dr. Arthur Hopkins, who introduced the speakers.

Dr. James L. Dyson, Chairman of the Department of Geology and Geography, welcomed M. S. P. to Easton and Lafayette college.

Dr. Arthur Montgomery, associate professor of geology, the well known mineralogist, collector and M. S. P. member, spoke on, "A Purpose That Benefits Mankind." In his talk he brought forth the thesis that it was important for a mineral collection to be preserved and kept on display for the edification and enjoyment of others.

Professor Charles Cabeen spoke a few words of welcome also.

The society voted to affiliate itself with the Eastern Federation of Mineralogical and Lapidary Societies and President Hopkins is appointing a Committee to investigate the possible reprinting of Samuel Gordon's Classic work on the minerals of Pennsylvania.

After the meeting thirty-five of us including officers and personal friends stopped at the home of John and Fannie Bertrand for refreshments served by our hostess assisted by Martha Irvine and Clara Thomas. As an added feature we enjoyed our host's fine mineral collection.

For making this affair such a memorable success we wish to thank Fannie Bertrand for getting out of bed despite a strep throat to be our hostess, John Bertrand, The C. K. Williams Company, The Forks Township Police Department, Our registrar, Lulah Ranck for coming all the way from Lancaster to exercise her function despite having been confined to bed with pleurasy until the day before and the fine bunch of men of Lafayette's Geology Department who so willingly share their vast body of knowledge with members of the community and anyone else who gets pleasure from the study of the Earth Sciences.

Through its excellent staff Lafayette College epitomizes the community service which our colleges strive to give to their communities and the public at large.

Gerry & Will Shulman Co-chairmen
Mineralogical Society
of Pennsylvania.
113 Huntington Terrace
Newark 8, N. J.

Lapidary Meeting

A group of 16 gathered on October 25th, at the home of Betty and Russ Bell, for the 1st workshop meeting of the group. Baroque stones were wrapped in silver wire following instructions by Ellen Pietsch. Walter Bancroft was interested in developing a good wire frame for holding historical coins. Russ Bell displayed some newly made tie bars. Stones were polished and silver work done by Russ Bell. Ellen Pietsch had many fine examples of her jewelry on display. All agreed that the 1st meeting was a huge success and that learning by doing, can be a lot of fun. Because Ellen Davidson traded extra Baroque stones and Ellen Pietsch, thoughtfully brought extra silver wire, all members were able to carry home a complete project.

On Sunday, November 8th, in spite of the snow covered landscape, a sizable group met at the home of Mr. and Mrs. Charles Belz (Lansdale, Pa.), for the second "Workshop." It was interesting to note the projects that were brought to the meeting. Betty Hirst was starting a bracelet using baroque tourmaline; Florence Evans was twisting a wire bracelet; Ellen Pietsch making special bezels to hold some carved turquoise, Russ Bell sawing and soldering a bezel and backing for a jade tie bar.

Preceding the workshop Gene Belz gave a report on the "Chryso" gem minerals. It was agreed that at each meeting a member would prepare a talk of about ten minutes, covering some technical phase of this hobby.

Russell Bell, 320 Kent Rd.,
Bala Cynwyd, Penna.
Chairman Lapidary Section
Min. Soc. of Pennsylvania

New York Mineralogical Club Inc.

The November meeting was held at Schermerhorn Hall, Columbia University, New York City, on Wednesday, Nov. 18, 1953; was called to order at 8 p.m. Allan K. Mitchell 1st V. P. presided.

The membership committee read for the second time, the name of Mrs. G. D. Wiebe.

New member applications were read for the first time for the following applicants:

Mr. Davis S. Lapham, Dr. Brian Harold Mason, Mr. Wm. F. Pesold, Mr. Curtis F. Reed, Mr. David M. Seaman, Mr. Stanley Harzfeld and Miss Carrie James.

Mr. Al Peppis, chairman of the Field Trip committee, reported on the outcome of the Tilly Foster foray. Ten hours of preparation were spent in readying the dumps which were well churned up by a bulldozer under the direction of Mr. Ronald J. Januzzi, providing fresh material for the hammer men as well as the muckers. Mr. Peppis reported that varied success was had in collecting and reassured the members who didn't do too well, that only 4 people were there to supervise the bulldozing.

A rising vote of thanks was given to Mr. Peppis and the Secretary was instructed to write a letter of thanks to Mr. Januzzi.

Mr. Peppis suggested that future field trip notices contain, mapped location, routes to follow, minerals to look for, type of matrix and brief geological description of the area. Bridge tables should be set up showing identified samples of the minerals to be found on location. These tables would be loaned by members attending the trip.

Mr. Joe Rothstein showed color slides of the Tilly Foster trip, and member and dealer mineral displays of the Eastern Federation of Mineralogical and Lapidary Society Convention held last October. He was resoundingly applauded for excellent photography and most interesting subject material.

Mr. Mitchell introduced Mr. Ned Blandford, a visitor at this meeting.

Dr. Brian H. Mason, Curator of Minerals at the American Museum of Natural History, gave an excellent talk on Mineral Collecting in Sweden. A suite of Swedish Minerals was on display, and slides punctuated a most interesting lecture.

Dr. Mason gave detailed data on the Ytterby, Varutrask and the Langban areas. The Langban series of minerals showed a remarkable similarity to our dearly beloved Franklin minerals. A well participated question and answer period followed and a rising vote of thanks was given to the speaker.

Mr. Fred Hayden was appointed Treasurer pro tem, to fill out Mr. Sampter's term. Mr. Sampter had requested to be relieved of this position.

There being no further business the meeting was adjourned at 10:53 P. M.

Victor Pribil
Secretary
47-18 37th Street
Long Island City 1, New York

Queens Mineral Society

The Queens Mineral Society is proud to say that once again awards were presented to the Club by the Eastern Federation of Mineralogical and Lapidary Societies. Last year our Cllub members displayed what seemed to be their best specimens; well this year more prize winning specimens showed up and the judges awarded — First prize in the Class of Cabinet Specimens General and First prize in the Class Crystals.

Competition was of the keenest and in view of the fine quality and showmanship displayed in the exhibits prepared by the other Clubs, these awards to the Queens Mineral Society are particularly gratifying.

Our display committee chairman, Mr. V. Pribil, and Mr. W. Helbig, assistant, gathered minerals from fourteen club members and artistically arranged in the show case specimens of Tourmaline, Malachite, Vanadinite, Rhodonite, Marcasite, Amethyst, Aragonite, Babingtonite, Epidote, Essonite Garnet, Siderite, Smoky Quartz, Titanite, Heulandite with Chabazite, and maany others.

Marie McKay, Sec.
111-20 — 106th Street,
Ozone Park, L. I., N. Y.

Eastern Federation of Mineralogical and Lapidary Societies

The third annual convention and show of the Eastern Federation of Mineralogical and Lapidary Societies is now history. The North Jersey Mineralogical exhibit was awarded the gold cup trophy for its outstanding display of Franklin minerals. The directors decided to make a similar award each year. Mr. Shaw, chairman of the society exhibits, is now mailing out the other awards to the successful contestants.

The Miami Mineral and Gem Society invited the Federation to Miami, Florida. This invitation was accepted and the 1954 convention and show will be held in Miami on Oct. 14, 15, 16. The Miami Society is well qualified to put on a show judging from past performances. This promises to be another really good event well worth attending.

The 1953 Committee worked hard on the show and deserves our whole-hearted gratitude. An outstanding accomplishment was the pro-

duction of 22 foldable display cases at a cost of $35 each. These cases are to be sold to the member societies for $35 each, which represents the cost of the material only. Each member society is entitled to purchase one case.

By way of a suggestion, each society acquiring one of these display cases should use it as a model and construct additional cases for use in local shows as well as Federation events. These cases are constructed so that they can be folded or collapsed into a relatively small space. Perhaps the 1953 Committee can be prevailed upon to furnish the required hardware for additional cases at cost.

The Federation officers for the ensuing year are:

President:
Mr. B. J. Chromy
811 National Press Building
Washington 4, D. C.

Executive Vice President:
Mr. Henry B. Graves
3153-63 N. W. 27th Street
Miami, Florida

Treasurer:
Mr. James H. Benn
Franklin & Flower Avenue,
Silver Spring, Maryland

Vice President:
Mr. Virgil G. Sleight
4410 S. W. 5th Terrace
Miami, Florida

Secretary:
Mrs. Lucy Dalla Valle
2 Jefferson Avenue
Maplewood, New Jersey

Historian:
Miss Florence Hight
169 E. 21st Street
Paterson, New Jersey

New Jersey Mineralogical Society

The members of the New Jersey Mineralogical Society enjoyed their Christmas treat a little early this year when Mr. Henry E. Millson, of Plainfield, addressed the group Tuesday night on the subject, "Some Studies in Fluorescence".

The enthusiastic audience of members and friends gathered in the Society room of the Plainfield Public Library, Plainfield, N. J., listened attentively as Mr. Millson described the experimental studies of mineral phosphorescence which he and his son, Henry, Jr., began shortly after the start of World War II. The Millsons hoped that the discovery of minerals showing long-duration phosphorescence might lead to the synthesis of superior phosphorescent coatings with military applications. Over a period of eight years, several thousand mineral specimens were examined and some minerals with exceptional-duration phosphorescence were discovered. A sample of fluorite from Connecticut exposed to ultraviolet radiation for one minute glowed preceptibly formore than four years, and a sample of calcite from Texas, similarly exposed eleven years ago, is still emitting enough light to take its own picture, even though the glow is no longer detected by the eye.

Mr. Millson's talk, which contained very lively references to rather unusual experimental procedures, such as the examination of specimens under the bed covers (to eliminate extraneous light) or the use of the family freezer to suspend phosphorescence, was brought to a close with a spectacular display of phosphorescent textiles, theater carpets, hand-painted butterflies, and such items of the future as phosphorescent diapers and diaper pins for the night-time change.

Mr. Millson, a member of the Society, is Manager of the Dyestuffs Technical Service laboratories, of American Cyanamid's Calco Chemical Divison at Bound Brook, N. J. He is well know as an authority on fluorescent and phosphorus materials and holds several patents in the field of dyestuff luminescence.

N. Wintringham
1485 Force Dr., Mountainside, N.J.

Mineralogical Society of the District of Columbia

The regular meeting of the Mineralogical Society of the District of Columbia was held in room 43 of the U. S. National Museum, Washington, D. C.

The meeting was called to order at 8:15 p.m. by President J. J. Livingston.

The minutes of the previous meeting were read and approved as amended.

A resume of the Executive Committee meeting held on November 7, 1953, was read.

Mr. Cosminsky reported for the Membership Committee. He presented five applications for membership which had been approved at the Executive Committee meeting. The members present voted unamimously to accept them into the Society.

Mr. Cosminsky reported that the Display Committee was disbanded and that all specimens have been returned to the rightful owners. President Livingston stated that the Society display case would be brought here from Paterson just prior to Thanksgiving Day by Mr. Al White.

Mr. Cosminsky, chairman of the Awards Committee for 1953, and his committee, namely: Dr. Casperson, Col. Mitchell and Mr. Douglass examined the entries and awarded the prize to the large specimen of apophyllite on prehnite collected by Mr. Russell Kirk and Mr. David Moul at the Centre-

ville, Virginia, quarry. Honorable mention was given to the remainder of the entries, due to their excellence.

The committee for the annual dinner was appointed with Mr. and Mrs. Blore as joint chairman. Other members of the committee are Mr. and Mrs. DuBois, Mr. and Mrs. Van Wagner, Mr. and Mrs. Schultz, and Mr. and Mrs Myers. The dinner will be held sometime between the January and February meetings with a definite date to be announced later.

The Nominating Committee for the election of officers for the coming year is as follows: Mr. French Morgan, chairman, Mrs. Haliday, Mr. Campbell, Mr. Wowra and Mrs. Dolly Madison.

A letter from Mr. John Obert was read listing minerals for sale or trade.

The Secretary-Treasurer stated that he would handle all requests by members for renewals and new subscriptions to the "Gems and Minerals" magazine.

President Livingston announced that Dr. Pough is bringing copies of his book to Washington, and said that anyone interested should contact Mrs. Sinkankas who is making the necessary arrangements for obtaining autographed copies.

Mr. Cosminsky made known the fact that Dr. Pough wanted a good hand specimen of apophyllite on prehnite. Mr. Cosminsky acting as agent for Dr. Pough said that he would be willing to buy such a specimen to present to him.

President Livingston announced that Mr. William Baxter will be the next speaker at the Lapidary meeting and will demonstrate the cutting of spheres. All are welcome to attend.

The guest speaker, Dr. William C. Casperson, curator of the Paterson, New Jersey, museum gave an excellent lecture on the florescence of minerals which was illustrated with charts and specimens. Dr. Casperson invited members to visit the museum at Paterson, and Col. Livingston extended an invitation to members from that area to visit the museum here in Washington.

Visitors and friends were introduced and made welcome.

The meeting adjourned at 10:10 p.m.

Lewis W. Klopfer
1410 Locust Road, N. W.
Washington, D. C.

Altamont Road Rock Club

A new club has been formed in Birmingham, Ala.,—started, owned, and operated by young boys, 7 to 12 years of age, with Hubert Goings, Jr., as the Club's President. Hubert, who is a member of the R & M A., lives at 3546 Altamont Road, Birmingham, Ala.

The Club's headquarters are at Hubert's home, or rather in a nearby building which at one time was a servant's home but has been converted into the Club's museum—The A. R. R. C. Museum—(admission 5c).

Most of the 1033 specimens on display in the museum were found by the boys at Avondale Park and around Birmingham, but 17 states besides Alabama are represented in the collection. A few have been sent or traded by the Club's "secret agents"—boys in Birmingham interested in rocks but not members of the Club, or by "foreign agents"—several boys from out of town whom Hubert met at camp. Recently a very well-to-do widow in the city presented the boys her husband's entire and very fine collection, so now they really have an interesting museum.

North Jersey Mineralogical Society November Meeting

The fabulously rich mineralization of Korea was described to members of the North Jersey Mineralogical Society at its November meeting held in Paterson Museum.

The speaker was Col. John J. Livingston of the United States Army Engineer Corps, through whose efforts the Korean mines began furnishing strategic minerals to this country even while the war was in progress. Largely through his efforts also, an agreement has been worked out under which the Korean government continues to supply such materials to this country's government and thus obtains funds needed for Korean rehabilitation.

Korea, he said, has almost all the minerals in which this country is deficient, and could export a hundred million dollars' worth per year without damage to its own economy. Among them he named tungsten, columbite, tantalite, samarskite, cobalt, beryl, mica, manganese and monazite sands which contain fourteen rare earths.

Other minerals in which Korea is rich include gold, iron, graphite, anthracite coal, fluorite, glass sand, silver, copper, kaolin, arsenic, talc, lead and zinc, molybdenite, mercury, lithium and salt. There is no petroleum.

Col. Livingston said he was sent to Korea in 1950 to do repairs on bridges and roads which had been destroyed. Being a mining engineer as well as a construction engineer, he began to look around at the mineral possibilities and the old mines which had been in operation. What he saw astounded him, particularly the tungsten deposits. The Sangdong tungsten mine on the southeast coast is the largest in the world with an estimated 100-year reserve; there are also numerous other tungsten mines.

The ores are scheelite and wolframite with powellite, hubnerite, ferberite and other minor tungsten minerals. Tungsten concentrates are shipped to this country and are processed at the few specialized plants which are capable of reducing the metal. Because of its high

heat resistance, chemical metallurgy is preferred for processing.

Col. Livingston said the geology of Korea is very complex with much non-conformity and faulting—a geologist's nightmare—but it explains the high mineralization which took place ages ago, from pre-Cambrian times to the Pleistocene.

During the Japanese occupation of Korea, from 1910 to 1945, considerable mining was done, principally gold and copper. The Japanese discarded the columbite, tungsten and similar minerals, so that now they are obtained from the old dumps, in addition to the fresh mineral from veins and placers.

Mining methods are still primitive, with very little mechanization as yet. Korea needs enormous amounts of electric power, he said, and it also needs technical skills which its education has never developed. Mining groups from this country are already going to Korea, he said, and mentioned a group from Utah which is now operating the big Sangdong tungsten mine.

Korea has 45 centuries of history, much of which is mythological. Its mythical founder and his queen are alleged to have ruled it for 1200 years. Although in recent times Korea has been regarded as a backward nation, it once had a high degree of culture. Col. Livingston said it has now been proved that Korea should get credit for several "firsts" which the Chinese have held; namely, the invention and use of moveable type, gun powder, cannon, block printing and astronomical science. The oldest astronomical observatory in the world is in Korea, he reported.

Successive invasions of the peninsula by the Chinese, the Tartars under Ghengis Khan, the Manchus, the Siberians and the Japanese reduced the land to its decadent state, he said.

The many colored slides with which Col. Livingston illustrated his talk, showed as no description could, the extremely mountainous nature of the country, the small meandering streams twisting and turning through the valleys, roads with similar twists and turns, the mineralized veins outcropping for miles, and withal a rugged scenic beauty.

December Meeting

Christmas season festivities ruled at the December meeting of the North Jersey Mineralogical Society, held at Paterson Museum.

A brief business meeting was followed by the inauguration of a new plan of mineral study under which one mineral will be identified, described as to its distinguishing characteristics and discussed as to its economic or artistic value and uses at each meeting. Everybody takes part and contributes to the general fund of information under the leadership of a different person at each meeting. The December leader was Mrs. Marian Casperson, and in January the discussion will be led by the Society president, Henry Mullner.

A table full of gaily wrapped gift mineral specimens for exchange was presided over by William B. Aitken, assisted by Walter Dallery, George Stevens and Warren Duncan. Distribution was made by matching duplicate numbers.

Following this feature the meeting was given over to songs of the season and refreshments. Warren Duncan was song leader. Harold Gabriels, the Society's treasurer, accordionist, accompanied the singing and furnished incidental music during the evening. A song by an impromptu choir of boys, all amateur mineralogists, was a highlight.

Table decorations and arrangements were done by Mrs. George Stevens and Mrs. Harold Weiman, assisted by their husbands. Mrs. Louise Borgstrom, the Society's secretary, and Miss Alypia Wendt furnished fruit punch.

Distinctive souvenir booklets containing the Christmas songs were made by Miss Wendt.

Cakes and traditional Christmas cookies were provided by Mrs. Elsa Milligan, and Mrs. Florence Ehman.

Guests were present from Hackensack, Mountain View, Lincoln Park, Glen Rock and elsewhere. Seven applications for membership were received.

Marian B. Casperson
Publicity Chairman
9-11 Hamilton Street
Paterson, N. J.

Geological Section of the Buffalo Society of Natural Sciences

The Geological Section met on Friday evening, Sept. 11, 1953, at the home of Section President, Dr. Wilbur L. Hoff. After a brief welcome, Dr. Hoff invited the assembled members to inspect the excellent collections spread throughout his home. In the attic a large and beautiful collection of fluorescent minerals was demonstrated with both long and short wave ultra-violet lamps. A huge collection of polished materials is also housed there. In three large cases on the first and second floors many treasures of minerals, gems and fossils were to be seen. One case is entirely devoted to Dr. Hoff's special interest, Mazon Creek Fossil Ferns. The basement is devoted to a general geological collection which covers the entire available floor area and includes every branch of Geology. A demonstration of slab cutting and polishing and a leisurely inspection of the collections concluded the program.

On October 2, 1953, the meeting was returned to the Museum of Science in Humboldt Park, Buffalo, where future meetings

during the year will be held on the first Friday evening of each month. The program featured a lecture-demonstration on the Faceting of Gemstones by Mr. Wilfred Drost. Mr. Drost, a chemical engineer at the Linde Air Products Co., has played an important part in the development of synthetic rubies, sapphires, titania, etc. His exceptional talent for cutting gem stones was well displayed as he faceted a synthetic gem before the eyes of the members.

The November meeting, held at the Museum on November 6, 1953, featured a dual program. For the Mineralogists, there was a sale of specimens at which members were given an opportunity to offer surplus specimens for sale. A large number of the Museum's duplicates were placed on sale, as were the recent collections of member, Dr. W. S. Heingardner. Included in the latter group was a beautiful aray of Franklin fluorescents collected during the October convention at Paterson, N. J. The second part of the program was of special interest to the palaeontologists who were invited to tour the Palaeontological laboratory of Mr. Raymond R. Hibbard. Mr. Hibbard showed his extensive collection of Invertebrate fossils including his excellent collections of conodonts (fish teeth) and scolecodonts (worm teeth), the only microfossil washing machine in Buffalo and many special techniques in micropalaeontology.

Clifford J. Awald, Secretary
The Geological Section
Buffalo Museum of Science
Buffalo 11, N. Y.

Mineralogical Section of the Rochester Academy of Science

The first meeting of the season was held at the Rochester Museum on October 8, 1953. Twenty members were present. The following new officers assumed their duties at this time: Chairman: Earle Potter Vice-Chairman: George Lynch; Secretary: Robert M. Eaton Treasurer: Mrs. George Costich and Permanent Curator: ;John Hartfelder.

Mr. Potter read the report by Dave Jensen, Chairman of the field trip committee, covering the activities for the past five months: First field trip of the summer was the Memorial Day weekend trip to the Asbestos Mines at Eden Mills, Vermont, and the Wollastonite Mine at Keeseville, N. Y. Mr. E. F. St. Mary, Jr., leader on this trip, arranged a tour that will be long remembered by those that attended. Twenty-seven persons from Rochester were joind by two from Syracuse, Mr. and Mrs. R. L. Sylvester, two from Northampton, Mass., one from Keeseville, N. Y., two from Vermont, and one from New Jersey, a total of thirty-five.

On Sunday, June 14th, Mr. John Van Ostrand, of the Dept. of Geology at the University of Rochester, guided 18 of us on a tour of the glacial geology of Mendon Ponds, near Rochester.

On July 18th, with Bob Eaton in charge, 27 members and guests visited the Penfield Quarry, after which Mr. and Mrs. David Jensen invited all to join them in a picnic lunch at their home.

August 15th we were off to a fossil collecting area, near Geneseo, N.Y. Mr. William McClennan, of Ward's Natural Science Establishment, led the party to spots where fossils of Devonian Age were found in abundance.

On Saturday, September 19th, Mr. Leo Houlihan arranged for a tour of the Corning Glass Center. Twenty-six members and guests enjoyed the exhibits and later visited the dumps. On the way home, many stopped for a picnic lunch at Mr. Houlihans attractive home at Conesus.

Our meetings are held on the second Thursdays of each month and a cordial invitation is extended to visitors and prospective members.

Robert M. Eaton, Secretary
54 Heberle Road
Rochester, 9, N. Y.

Chattanooga Rock and Minerals Club

In 1869 State Geologist Safford in his "Geology of Tennessee," wrote:

"Between one and two miles north of Cowan and on the end of a spur running out from the table-land, is a rich locality of *pentremites pyriformis* and other fossils. The bed in which they occur is shaly, and has about the horizon of shales in the vicinity of the N. C. & St. L. Ry. tunnel."

From the above information W. H. Workman, on Oct. 24, 1953, led five cars of the Chattanooga Rock and Minerals Club to the exact spot. To reach it, go north from Cowan to the old road identified by the heavily-laden (about six or eight cross-arms) telephone poles and turn left (west) to pole No. 3692. On foot ascend the indefinite route of path-old road-and dry wash about 200 feet vertically to a rather flat, disintergrating limestone cutcrop. This is it.

Working right and left the pentremites ("sea buds," or "fossil hickory nuts,") will be found loose—you merely have to pick them up. Occasionally a crinoid stem and archimedes will be seen, and at one place is a concentration of cup or horn corals.

On our return via the detour down the mountain between Tracy City and Jasper and quite near the foot, J. B. Cate pointed out fossil tree casts in the black shale of the road cut. There were two, each about a foot in diameter, one about three feet and the other about six feet in length. These were *sigilaria* of Carboniferous times. The larger trunk shattered but sections of the former were secured by several members.

George C. Olmsted
1129 James Blvd.
Signal Mtn., Tenn.

Miami Valley Mineral & Gem Club

The following is an account of our October meeting of the Miami Valley Mineral & Gem Club:

Just one year ago the Miami Valley Mineral and Gem Club was conceived and born, with President R. W. Downey, of Springfield, guiding it very capably, through it's infancy. Now, it has reached the creeping and teething stage, and we have a new set of officers to see to its welfare.

For President, Mr. Robert J. Wening, of Dayton; for Vice President, Mr. Wm. C. Downey, of Springfield; for Secretary, Mrs. James W. Riley, of R. D. 2, Springfield; for Ass't Secretary, Mrs. Joe Garner, of Dayton; for Treasurer, Mrs. Harold St. John, of Fairborn; and for Curator and Display Chairman, Mr. Joe Garner, of Dayton.

The Society meets the second Sunday afternoon of every month at 2:00 P. M. at the Y. M. C. A. at Fairborn, Ohio, because it is centrally located, since our members come from Columbus, Springfield, Piqua, Dayton, Cincinnati, and Fairborn.

Anyone interested in the rock hobby is cordially invited to attend our meetings, or write the secretary for information. During the past year we have had some productive field trips to Flint Ridge for its beautiful chalcedony and jasp-agate and to Clay Center for its calcite, celestite and fluorite crystals. Even the gravel pits in this vicinity yield some interesting cutting material.

Mrs. James W. Riley, Secretary,
R. D. 2, Dialton Rd.
Springfield, Ohio

Mid-West

Chicago Rocks and Minerals Society

At the monthly meeting of the Chicago Rocks and Mineral Society, held on December 12th, the members and guests were delighted by an exciting and informative evening. Dr. J. Daniel Willems, Doctor and expert hobbyist, author of the popular book "Gen Cutting" entertained the club with his beautiful color slides.

Step by step Dr. Willems showed the transformation of a slab of rough material into cabochon gems of beauty and excellence. Colorful views of each phase of grinding and polishing were shown with the speaker at the machines in his home workshop. The latter part of the talk covered the faceting of gem stone material. Truly startling with beauty were the views of faceted gems crafted and photographed by Dr. Willems.

A new feature was initiated at the December 12th Christmas party this year with the introduction of a gaily decorated Christmas Tumbler Barrel. On arrival at the party each member placed his gaily wrapped present, a polished cabochon, rough slab or mineral specimen, and bearing his name, in this red and green, bejewelled and beribboned container. After the regular meeting, a jolly Santa rolled out this Christmas Tumbler Barrel upon the stage to the playing of seasonal tunes and handed out the gifts. "Grab-bag" style to the members gathered at the barrel.

Chicago Rocks and Mineral Society,
3618 N. Page
Chicago, Ill.

Bexar County Mineral Hobby Club

At the request of the citizens of Poteet, Texas, the Bexar County Mineral Hobby Club of San Antonio, Texas, held a second meeting and display in their Legion Hall last October 23rd. The 55 rock-hounds present viewed a $150,000 "Electronic and Black-Light" demonstration by Mr. R. C. Farquhar of San Antonio. On November 13th the club will begin meeting permanently every second and fourth Friday of each month in the Twohig Hall of Witte Memorial Museum at 8 o'clock. Visitors will always be welcome.

A. S. Imell, Sr.
President
838 Clower St.
San Antonio, Texas

Plans for the 1954 Texas Federation Show Well Underway

Extensive plans are now in the making for the 1954 showing of the Texas Federation of Mineral Societies, to be hosted by the West Texas Gem and Mineral Society. The dates have been set for May 14, 15, and 16.

The show is under the general chairmanship of Doctor Robert Harris. Space contracts and finances are being handled by Paul Rhoades; George Sinclair is in charge of the Property Committee; and the competitive exhibits and judges are under the supervision of Harry M. Simpson. The location for the show is the Ector County Park in Odessa, Texas.

These committees have now completed the necessary plans for procuring exhibits and the necessary layout work for the showing of these exhibits. This will be the first attempt by the West Texas Gem and Mineral Society to stage a show of this type inasmuch as this organization has been in operation for only a period of one year.

HOUSING: In contacting the individuals who will possibly attend the show a complete listing of the suitable hotel and motel accommodations in Odessa is being included, and the organization is recommending that those individuals who plan to attend make their reservations directly with these hostelries. With the erection of several new motels and the completion of Odessa's Lincoln Hotel, ex-

celleat accommodations are now available in the Odessa area.

DEALERS: West Texas Gem and Mineral Society is currently contracting all possible dealers who would be interested in displaying at the show. A complete layout plan has been prepared and display space is under construction. All dealers will have an opportunity to select the location of their preference. The organization is encouraging as many as possible to take advantage of this opportunity, and a very nominal fee is being assessed to make this possible.

FIELD TRIPS: The host mineral society has scheduled a field trip to the Big Bend area May 17, immediately following the show. The Big Bend country is the location of the famous Texas Red and Black Plume and Pom-Pom. This will in all probability be the first opportunity for many mineral hobbyists to hunt these particular types of stones. The Big Bend country is approximately 140 miles from Odessa, and this field trip is planned as a profitable climax to the scheduled activities.

WEST TEXTS GEM AND MINERAL SOCIETY ACTIVITIES: Some of the highlights of this newly formed organization include ambitious plans for the annual showing of the Texas Federation of Mineral Societies Convention. Also, the society has set up a mineral grab-bag in an effort to increase its fund. During the month of December the society conducted a Christmas party and each member of the society had an opportunity to exchange presents relating to the gem and mineral field. The club's 40 members schedule a field trip for each month of the year, and a great deal of enthusiasm has been registered as a result of this activity.

SHOW SITE: Odessa, Texas, has a population of 42,125 and is considered to be the "hub" of the great Permian Basin. Its principal economy is based on the exploration for and production of oil. Odessa serves as a distribution center for a radius of 175 miles and houses over 300 oil industrial distribution establishments. Odessa has boasted since World War II that it is the third-fastest growing city in the United States and the fastest-growing city in Texas. Its open plains and mild, semi-arid climate permit year-around outdoor activity for the gem and mineral searchers.

(Watch this magazine for further details pertaining to the show. Make your plans early to attend).

Robert E. Stegner
Advertising Committee Chairman
Box 3587
Odessa, Texas

West

Dugway Gem and Mineral Society

The Dugway Gem and Mineral Society, Dugway Proving Ground, Tooele, Utah, has resumed its bi-monthly meetings which are held in the Service Club on alternate Tuesday nights at 7:30 P. M. Both military and civilian personnel of the base participate.

Newly elected club officers are: Lt. Colonel John Shilling, President; Lt. Colonel William Stone, Vice-President; Mrs. John E. Alder, Secretary-Treasurer.

The club recently took a field trip to the vicinity of Jericho, Utah, and found many large samples of agate and jasper, as well as one piece of petrified wood. Plans are now being made for an over-night trip to Green River.

Club members have worked to get our cutting and polishing equipment set up, so demonstrations and instruction can begin immediately.

Mrs. John E. Alder
Secretary
RW Division
Dugway Proving Ground
Tooele, Utah

Delvers Gem and Mineral Society

The last Sunday in November proved to be a banner day for the Delvers Gem and Mineral Society of Downey, California, when 45 cars carried around 125 members and guests to the collecting area on a field trip to a Pleistocene lake bed. The group met at Manix, just east of Barstow, and traveled in caravan to their final destination.

This area was once a lake surrounded by hills and mountains which were quite mineralized. During the Pleistocene epoch, when these hills and mountains were eroded away, the agate, jasper and a mixture of the two were washed into the lake. Later a period of uplift evidently drained the lake, and through further erosion, the material was left on the surface. Agate, jasper and jaspagate lie in abundance over an area of several hundred acres. There is a fair amount of palm replacement and a lesser amount of other wood. Most of the material is in rather small pieces but varies in size up to pieces as large as one's fist.

A perfect collecting day with a temperature about 75° and a slight breeze provided ideal conditions for collecting enough cutting material to keep the Delvers busy for some time to come.

Jean Haygood
Publicity Chairman
8237 E. 3rd
Downey, Calif.

Gem Show Scheduled for August, 1954

Lapidary Association of Southern California has announced the dates for its Second Annual Gem Show. Show will be held Friday, Saturday and Sunday, August 13, 14 and 15, 1954, at the Shrine Convention Hall in Los Angeles, Calif.

Host clubs in the Lapidary Association are the Los Angeles Lapidary Society, the Santa Monica Gemological Society, the Hollywood Lapidary Society and the Gem Cutters Guild.

Feature exhibits as well as outstanding collections from all 12 clubs in the Lapidary Association will be displayed at the show. In addition to the host clubs, the clubs to be represented by displays include the Glendale Lapidary and Gem Society, the Pasadena Lapidary Society, the San Pedro Lapidary and Mineral Society, the Old Baldy Lapidary Society, the Compton Gem and Mineral Club, the Long Beach Mineral and Gem Society, the Delvers Gem and Mineral Society and the San Gabriel Valley Lapidary Society.

This is the second annual show to be cosponsored by the Lapidary Association and the American Gem and Mineral Suppliers Association. It is believed that with a large hall, beautiful displays and more adequate parking facilities, the show this year will create more interest and draw a greater attendance than the first annual show at Long Beach. This same high quality of special features and excellent displays of both lapidary art and mineral collections will be shown. The show is expected to be of sufficient quality that it will attract national attention.

Sacramento Mineral Society

The Sacramento Mineral Society held a "Mineral Tour" December 13th. Meeting at the home of Mr. & Mrs. Clarence Seeley at 1 PM, some 40 persons then went in groups to the residences of Mr. & Mrs. Martin Colony, the Elmer Lesters, and the Ernest Pooks where collections of minerals and lapidary displays were inspected. This proved to be an outstanding "field trip" and anticipation runs high for a repetition at some future date.

The annual Christmas party of the Society was held in the Turn Verein Hall, Sacramento, on December 18th with Christmas entertainment. Duplicate numbers were distributed and, under the supervision of Santa Claus who called the numbers, an exchange of presents took place. Refreshments were served and Christmas carols sung.

Paul H. Steele, Chairman Publicity Com.
Box 935
Sacramento, Calif.

Mineralogical Society of Southern California, Inc.

At the November meeting of the M. S. S. C., Mr. E. V. Van Amringe, head of the Physical Science Department of Pasadena City College, gave a very interesting illustrated talk on the mines and ghost towns of the Colorado Rockies. His son, Jack, also told of his climb to the top of Long's Peak and showed excellent shots of a glacial lake and the sheer face of the mountain.

Mr. H. Stanton Hill of the Physical Science Department of Pasadena City College was presented with a Life Membership in the Society.

Dr. Rodney H. Gale, also of the Physical Science Department of Pasadena City College, led the December field trip of the M. S. S. C. to the borax deposits of Lockwood Valley. These were deposited in Miocene times when this was a very arid region and at substantially the same time as several flows of basaltic lava in which they are layered. Gypsum, Howlite and radiating Colemanite were collected.

The geology of the Frazier Park region is particularly interesting because the great San Andreas fault, running approximately northwest and southeast and which has a right lateral movement with an offset of 65 miles (since Miocene times), crosses the Garlock fault, running east and west and which has a left lateral movement of 8 or 9 miles. To further complicate matters, the Big Pine fault, an extension of the Garlock and the San Gabriel fault, also meet here.

Mrs. Milton A. Wise
1162 Woodbury Road
Pasadena 6, Calif.

Mineralogical Society of Arizona

Mineralogical Society of Arizona held only one meeting in Nov. due to the big show at the state fair.

At the Nov. 20 meeting, Carroll Mills described the zinc ores and their uses, illustrated with a display from all parts of the U. S. Zinc, said Mills, was known in India in the 14th century and smelted in England in the 17th century. Today it is one of our widely used metals.

About 55 different minerals contain zinc. Sphalerite, a zinc sulphide, is the most important. The most important use of zinc is in coating steel. In normal peace times about 60 per cent of the zinc mined is used for coating, and about 30 per cent in making brass.

Smithsonite is one of the zinc ores. It was named for Smithson, for whom the Smithsonian Institute was named.

Zinc handicaps the smelting of lead and copper. If there is more than 8 per cent of zinc in the ore, smelters will not accept it. Most zinc is extracted by the distillation method.

Annual production of zinc in the U. S. is 565,000 net tons of which 36 per cent is mined in the West.

A travelog illustrated with kodachromes was given by Moulton B. Smith, covering the geology of the southwestern and middlewestern states. Formations of Grand and Bryce canyons were contrasted with the limestone fossil and travertine geyser cones in Wyoming.

Ida King
2010 W. Jefferson
Phoenix, Ariz.

Los Angeles Lapidary Society

The Los Angeles Lapidary Society enjoyed one of the most unusual and beautiful programs in its history at the November meeting when one of their own members, Carl T. Wood, presented "Crystal Gazing with Projector and Chemicals" to an enthusiastic audience and received many requests to repeat his program for university art departments and other societies. Mr. Wood is known to many rockhounds for his talks on Lost Wax Casting and for his displays of castings made from living blossoms and the Floating Opal Gavels which are used by many clubs.

With the aid of a special projector which he himself designed and built for this purpose, Mr. Wood projected on the screen the images of crystals which were actually forming from chemical solutions while we watched, duplicating in seconds the process which takes many years in nature. Since the crystallization took place under polarized light, the effect was that of a moving picture of modernistic art in spectral colors, with colors and forms which were breathtaking in their beauty. While the projection of mineral thin sections has been done before, and slides have been shown of minerals photographed under polarized light, it is believed that this is the first time that crystals have been grown on the screen under polarization.

Nell Stein
Corresponding Secretary
6110 Rimpau Blvd.,
Los Angeles 43, Calif.

Arizona State Fair Mineral Show November 6-15, 1953

Nearly 1000 persons per hour were clocked entering the Mineral Building at the Arizona State Fair on Armistice Day. The Mineral Building, which houses a permanent mineral exhibit for students and visitors now on a year round basis, was resplendent with additional individual and school exhibits during the fair, Nov. 6-15.

Lower Miami School, Miami, Arizona, won first prize and the Phelps-Dodge trophy again this year with a case of outstanding cabinet specimens. Ajo Public Schools, Ajo, Arizona, came in second, and McKinley School of Phoenix, third.

Fifteen individual students won cash prizes and ribbons in 5 divisions covering cabinet specimens, thumbnails and cabochons. A large attendance of students showed a lively interest in the displays, an interest which has increased tremendously since a number of years ago when Arthur L. Flagg, now curator of the Arizona Mineral Museum, got behind the schools and students to enlist their interest in the earth sciences.

One theme of the adult exhibits this year was early methods of mining as compared with today's methods. The batea and hornspoon, both used for panning gold by primitives of Mexico and South America, were exhibited with a gold pan of the West, a set of pocket gold scales, and specimens of gold mined in Arizona in 1775 shortly after the third great recoinage of gold there.

Mine illumination devices were shown, from the cedar bark torch used in the Camp Verde, Arizona salt mine A. D. 900 to 1100, to candlesticks, oil-burning caap lamps, carbide lamps, and present-day electric cap lamp with storge battery fitted to the belt.

Many of the items were in use in Arizona 69 years ago when the state fair was first organized.

A clever tableau, made by Fred (Pop) Conner and activated by electricity, showed a most realistic old miner panning gold from a real mountain creek while his burro broused on a nearby bank and a little wooden dog wagged his tail. Pop Conner is working on an activated tableau for next year that will do everything except work out atomic equations.

A display from the University of Arizona told the story of mining in pictures and ores.

For the fourth consecutive year, Fred Bittner of Scottsdale, Arizona, member of the MSOA and Maricopa Lapidary Society, closed his shop and took a complete exhibit of rock hound tools, equipment and mineral textbooks to the show. The tools ranged all the way from a rock hound's pick, Geiger Counter and Nucliometer, down to the latest in snake bite kits. In his gem stone collection were exquisite Mexican opals, with all the various wheels for cutting and polishing them. Judging from the crowds in his corner, Phoenix will blossom out with a large new crop of rock hounds.

Gem stones of the Bible were exhibited by Ellamay Solosth. Many of these were found in Arizona and still bear the names known and loved for centuries.

Among the specimens belonging to Arthur L. Flagg were uranium and rare earth ores

from all parts of the world. These, together with the gold specimens drew large and interested crowds.

A "Cactus Cowman" resembling the theme of the 1953 fair, was fashioned by Flagg from crushed fluorescent minerals, willemite, calcite and scheelite. The little cowboy with green (willemite) pants, red (calcite) kerchief and white (scheelite) 10-gallon hat, stood guard in the fluorescent room. He should have packed an atomic gun, because vandals damaged a window in the dark room.

Exhibited by the Mineralogical Society of Arizona was a large volcanic bomb thrown out of Sunset Crater about A. D. 1066.

Other unusual exhibits were, the Chinese goddess, Quan Yin, carved from rose quartz by Lloyd Day Hopper, collection of Bob Solosth; a rare malachite pseudomorph after calcite coated with quartz (Arizonaa), collection of Monnie Speck; and the first edition of Manual of Mineralogy by James D. Dana, published by Durrie & Peck in 1851, exhibited by M. Warren Krause.

Some of Nature's own crystal flower arrangements were: dioptase, wulfenite, cerussite and descloizite on chrysocolla (Arizona), Richard Bideaux; wulfenite, cerussite and hydrozincite (Arizona), and tourmaline, smoky quartz and apatite (Calif.), Fred Burr; galena, dolomite and marcasite (Okla.), Patty Miller; and manganese crystals in petrified wood (from Maggie Baker claim in Arizona), A. L. Flagg.

Rare and beautiful thumbnails were more numerous this year than at any previous shows. Cases of exquisite cabochons, slabs, spheres and jewelry by members of the Maricopa Lapidary Society; and cases of spectacular minerals and crystal combinations displayed by members of the MSOA drew large crowds of appreciative spectators.

The show was well planned and well managed by Supt. Arthur L. Flagg, assistant supt. Harry V. Hill and Mrs. Hill. Others who were there every day during the fair to help were: Glenn Pare, museum assistant to Mr. Flagg, the Arizona Dept. of Mineral Resources, and members of the MSOA and Lapidary Society.

It is estimated that nearly 57,000 persons visited the Mineral Building, which was a record attendance.

Judges were Dorothy Craig, Los Angeles; Jack G. Streeter, Altadena, and Leslie C. Vance, Pasadena, all California.

Ida Smith
Publicity Correspondent
2010 W. Jefferson
Phoenix, Arizona

Rogue Gem & Geology Club

"The Rogue Gem & Geology Club of Grants Pass, Oregon, held their Christmas party and election of officers at their December 4th meeting. The new officers for 1954 are: Mr. Dick C. Heater, President; Mrs. Everett P. Geasland, Vice President; Mrs. Bonita Spencer, Secretary; Mr. Robert Spencer, Treasurer; Mrs. Mary C. Ethell, Corresponding Secretary.

The Club will be five years old in January so will be hosts to the Illinois Valley Gem and Mineral Club of Cave Junction, who will be one year old, and to the Roxy Ann Gem & Mineral Club of Medford who will be two years old.

June 19th and 20th are the dates of the second annual Southern Oregon Rock Show to be held at the Josephine County Fair Grounds where plenty of free parking will be available."

Louise A. Geasland, Sec'y.
Box 403
Grants Pass, Ore.

Wasatch Gem Society

Nearly 1000 persons attended the annual exhibition of gems, polished and unpolished rocks, and minerals Saturday and Sunday, December 6th and 7th, at 47-2nd East, Salt Lake City, Utah, sponsored by the Wasatch Gem Society, Salt Lake City. Both precious and semi-precious stones collected by the members were on display. There were some 30 collections on display and the show proved to be a huge success.

Mrs. Elliot Bird, Sec.
Box 14
Sandy, Utah

Alaskan Rock and Mineral Associatin

A new club has been formed in Alaska—The Alaskan Rock and Mineral Association whose president is George H. Cornelius, Box 448, Kodiak, Alaska. The Club has a membership of about 200, many of whom would like to exchange mineral specimens with collectors everywhere. Mr. Cornelius has a large stock of Alaskan minerals for exchange or sale.

A Bundle of Pleasure!

Editor R & M:

Please find enclosed check for renewal. Am always looking forward to the next on coming issue, as each new issue always brings some new surprise, as well as a bundle of pleasure, gleaning thru its vibrant pages.

James Neal
27 New Street
Dec. 1, 1953 Mount Joy, Pa.

R & M Just All-Around Good!

Editor R & M:

I enclose check for $3.00 for renewal of R & M, as slip in this month's indicates there is no more time. Frankly, I get far more out of R & M than any other mineral magazine. It's just all-around good. Have picked up some fine exchange friends thru it.

Glen E. Kiser
Dec. 13, 1953 Douglass, Kansas

Publications Recently Received

Jensen — Mineral Collectors Guide.
By David E. Jensen, Head, Geology Department, Ward's Natural Science Est., Inc. 36 pages, 17 figs. 6 x 9 .....$1.00
Published by Ward's Natural Science Est., Inc., Box 24, Beechwood Sta., Rochester 9, N. Y.

Ward's Natural Science Est., Inc., the world's oldest and largest mineral dealers whose chief customers are the big museums, universities and other scientific institutions plus the world's foremost mineral collectors, have endeared themselves to the rank amateur collector with their recently published "Mineral Collectors Guide" and the establishment have chosen wisely by having their own David E. Jensen write the Guide. For Mr. Jensen has had many years of experience in handling minerals from all over the world, in collecting them personally, and in dealing with collectors, both young and old—beginners or advanced.

A letter from Mr. Jensen, dated Aug. 31, 1953, has this paragraph:—

"Several months ago we felt that there was a need for a popular guidebook that would enable beginning mineral collectors to get started on his or her hobby and, once started, to direct future activities toward greater pleasure and profit from collecting. With this in mind, the "Mineral Collectors Guide' was written and illustrated."

The Guide is an intensely interesting publication, full of tips and timely advice for the beginning collector. Order your copy today!

Dake — The Uranium and Fluorescent Minerals.
By H. C. Dake, Editor, *The Mineralogist Magazine;* 80 pages, illustrated, 6x9¼ $2.00
Published by the Mineralogist Publishing Co., 329 S. E. 32nd Ave., Portland 15, Ore.

Here is a very useful handbook for the collector of fluorescent gems and minerals—also a guide for the prospector for uranium minerals. Its author is Dr. H. C. Dake, who is not only the Editor of the MINERALOGIST MAGAZINE but is also one of the most widely known mineralogists of the country.

The purpose of this volume is to present in a non-technical manner, some widely sought data on the fluorescence of gem and minerals, and the uranium ores.

Some 20 years ago, the fluorescent gems and minerals were more or less laboratory curiosities. Today with the introduction of a number of ultraviolet lamps in the low price range, interest in these unique and colorful specimens has widely increased.

All collectors interested in fluorescent or uranium minerals should have a copy of this valuable book.

Taylor—Geography in the Twentieth Century, Edited by Griffith Taylor, 2nd edition, 661 pages, 57 maps and diagrams, 15 plates, 6 x 8¾, cloth $8.75
Published by Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y.

This volume of over 650 pages is the work of twenty-two authors, each of whom is a specialist in the section with which he deals. Its aim is to study the growth, fields, techniques, aims and trends of geography. Characteristics of its evolution since 1900 are stressed. Among the American authors are Isiah Bowman who describes Pioneer Geography, and Ellsworth Huntington who deals with geographic aspects of aviation. Professors Fawcett and Dudley Stamp are two of the British contributors, and there are a number of Canadian writers and two who are of Slav origin. The book is divided into three parts, of which the first deals with the evolution of geography and its philosophic basis. The second is concerned with studies of special environments and with advances in geomorphology, meteorology, climate, soils and regionalism. The last part describes field work, sociological and urban aspects, the function of the Geographical Society and geo-pacifics. The editor is Griffith Taylor, who has contributed six chapters, including a glossary.

In the present edition minor errors have been eliminated from the original texts, and a few additions made, while two completely new chapters on Cartography and on the Geographical Interpretation of Air Photographs have been added.

PHOTOGRAPH TECHNIQUE FOR SHOWING SOME MINERAL RELATIONS

In U. S. Geological Survey, Bulletin 992—(Washington, D.C. 1953)—Dr. Waldemar T. Schaller had a most interesting paper, "A photographic technique for showing some mineral relations" pp.53-94, 14 plates.

A photographic technique is described whereby the parallelism of a group of crystals, or the presence of a certain mineral in an association of other minerals, or a certain structure, can be emphasized and be shown to better advantage than by a straight-on photograph.

CATALOGS

Technicraft issues 1954-1955 Catalog.

Technicraft Lapidaries Corp., 3560 Broadway, New York 31, N. Y., have just released their new 1954-1955 catalog. It is a big profusely illustrated publication—38 pages with cover — chuck full of fascinating items for the gem cutter. It features lapidary machines, lapidary equipment, rough gems, cut stones, books, etc., etc.

A letter dated Dec. 15, 1953, from Edward J. Platt, Gen. Mgr., reads:—

"Attached is an advanced copy of our 1954-1955 catalog. Our first printing is 10,000 copies which will be distributed to our mailing list free of charge and at $ .25 per copy for those who have never received literature from us before. The 25c sum will be refunded upon the purchase of $5.00 or more."

Parser's Latest Gem Material Catalog.

A. G. Parser, Inc., 15 W. 44th St., New York 36, N. Y., present their latest gem material catalog along with a brief description of each gem material and valuable hints on preparation of Gem Cutting

In the introduction to this interesting 24 page publication appears the following:—

"Although we have been supplying the professional trade for many years with the finest rough material which the gem mines of the world are capable of producing, we want every amateur to feel that our services are meant for him too. We do NOT 'save-out' our best qualities for anyone. Your order will receive exactly the same instant consideration that is given to anyone else.

This catalog sells for $ .30 which amount is refunded if order of $10.00 or above is received."

Gem Cutters Supply Catalog.

Gem Cutters Supply, Ninth and Keo Way, Des Moines 14, Iowa have published their new Fall 1953 catalog, which consists of 59 pages with many illustrations. The catalog features a wide variety of lapidary equipment and supplies, and many of the popular books on gems, gem cutting, mineralogy etc.

On the bottom of page 58 is this item:

"These catalogs are issued at considerable expense and will be sent free to all customers who have ordered at least $5.00 in merchandise. Price of the catalog to others will be 25c, which will be refunded when the total business reaches $5.00."

MADE-TO-ORDER DIAMONDS?

So far as is known, no one has yet succeeded in making diamonds. But there is a great deal of talk these days about a new process for changing cheap yellow natural diamonds into rich vibrant green gems worth twice their original value . . or about $12,000 for a nine carat stone.

According to an article in the December issue of Science and Mechanics magazine (450 East Ohio Street, Chicago 11, Illinois) the process which turns diamonds green is bombardment with high energy particles in a cyclotron, and already experiments have shown that diamonds can be changed to other colors as well.

The commercial availability of green diamonds is a result of the efforts of Martin L. Ehrmann, a Los Angeles diamond dealer and graduate mineralogist from the University of Hamburg, Germany, whose curiosity was aroused by a 14-carat green diamond which came into his possession.

Although the exact status of the diamond still remains a mystery, Ehrmann took the stone to the American Museum of Natural History in New York and there began a chain of years of experiments. Research work conducted at Harvard, Columbia, Washington and Michigan Universities revealed that bombardment for three minutes in a cyclotron could turn small yellow stones into a variety of colors.

Later experiments at the University of California, in Berkley, enabled Ehrmann and others to find a means of penetrating the colors permanently into the stones. It is supposed that nuclear bombardment changes the color of diamonds by displacing electrons within the regular cubic pattern of atoms within the crystal, permitting other clectrons to absorb energy and emit it in the new color.

As stated in the Science and Mechanics article, Ehrmann says the irradiation process is now so well controlled that diamonds can definitely be made to take on a uniform shade of green. In fact, there is some hope that future research will discover a means by which the cyclotron can *decolorize* yellow diamonds so they will rival even the finest colorless gems.

FROM AROUND THE WORLD - - - -

SPECIMENS

Aragonite, New Mexico, Pure white coralloidal cluster. 3x3" $2.00

Smithsonite, New Mexico. Beautiful blue green botryoidal masses. 2x3" $1.50, 3x3" $2.00, 4x4" $3.50.

Iridescent Sphalerite, Okla. With chalcopyrite. 1½" 35c, 2x2" 75c, 3x3" $1.50, larger $2.25.

Cobaltocalcite, Spain. Add this rare mineral to your collection. Red massive. 2x2" $2.50, 3x3" $3.75.

Barite Half-Sphere, Okla. Show fine radiated structure. Gray color. 3x3" $1.75. Whole sphere $2.50.

Barite Mums, Okla. Different from the barite roses. Well formed, large 3x4" and heavy. $2.25.

Native Copper, Michigan. Pure metal in odd forms. 1x3" 85c. Larger specimens at $1.50, $2.50, $3.50.

Native Silver, Michigan. Small ½ to 1" nuggets only 65c each. Larger choice ones at $2.50, $3.50, $5.00.

Sulphur, Italy. Closeout on some outstanding material. Fine crystals and groups 3x3" or larger $3.75.

GEM MATERIAL

Lilac Amethyst, Brazil. Choice clear for faceting. 10 gram single chunk $2.00.

Tiger Eye, Africa. Choice quality slabs in choice of GOLDEN, RED OR BLUE. 3 sq. in. for $1.25. AA quality.

Green Tourmaline, Brazil. A special lot just received. About ½ or more will facet clear stones. 10 grams for $3.50.

Green Jade, Wyoming. Fine green color slightly mottled. 3 sq. in. for $1.15 or 1 pound rough for only $5.50.

Apache Tears, Arizona. Clear black ob-..sidian nodules. ½ to 1½". Make beads, cabs. Will facet. $1.00 per pound.

Sphalerite. Spain. From Picos de Europa Mine. Fairly clear, will facet. Large pieces. 20 gram lot for $2.00.

Light Fire Opal. Australia. A very good quality for this low price. About 15 chunks to ounce at only $4.25 per oz.

Jelly Fire Opal, Australia. Firey chunks ½ to 1½" will make flashy cabs. Graded at $1.00, $1.50, $2.50, $3.50, $5.00 each.

Green Quartz, Africa. Deep green opaque material. Resembles fine jade. 3 sq. in. for $1.00. 9 sq. in. for $2.50.

BOXED MINERAL SET ! !

Packed in solid redwood hinged lid box 10x6x1½" 15 compartments colorful minerals set contains PYRITE, AZURITE, SULPHUR, ACTINOLITE, AMETHYST, MALACHITE, VANADINITE. ORPIMENT, TALC, FLUORITE, QUARTZ CRYSTAL, KYANITE, CALCITE, ALLOPHANE, LEPIDOLITE. Priced at only $3.85. Order yours now.

LOST MINES OF DEATH VALLEY ! !

New book just out by Harold Weight. Interesting stories of fabulous lost mines including the Breyfogle, the Fortyniners, the Goler, the Avawatz and others. 72 pages, paper cover. Price $1.50.

WESTERN MINERAL SPECIMEN BARGAIN ! !

To close out some odd lots we'll send you a parcel containing our selection of 12 good mineral specimens. These will average 2x3" in size and will have identification card with each. Postpaid only $5.00.

CUT ROCK CRYSTAL STONE SPECIAL ! !

Still have some of these left. A bargain if there ever was one. 16x22mm octagon faceted flawless rock crystal only $1.98. Weighs 28 carats. Will liven up your collection. Order one today.

WE'LL PAY THE POSTAGE BUT—

Your order must total $5.00 or more. That is our new minimum. We simply cannot process orders and pay postage for less. We are now in our eighth year and our new policy will be to supply minerals and gemstones only. We'll have the best for you at moderate prices. Our 1954 list is now ready and we'll issue a special list each month. Ask for them, they are free. From the source-to us-to you.

PLUMMER'S MINERALS

4720 POINT LOMA AVENUE **SAN DIEGO 7, CALIFORNIA**